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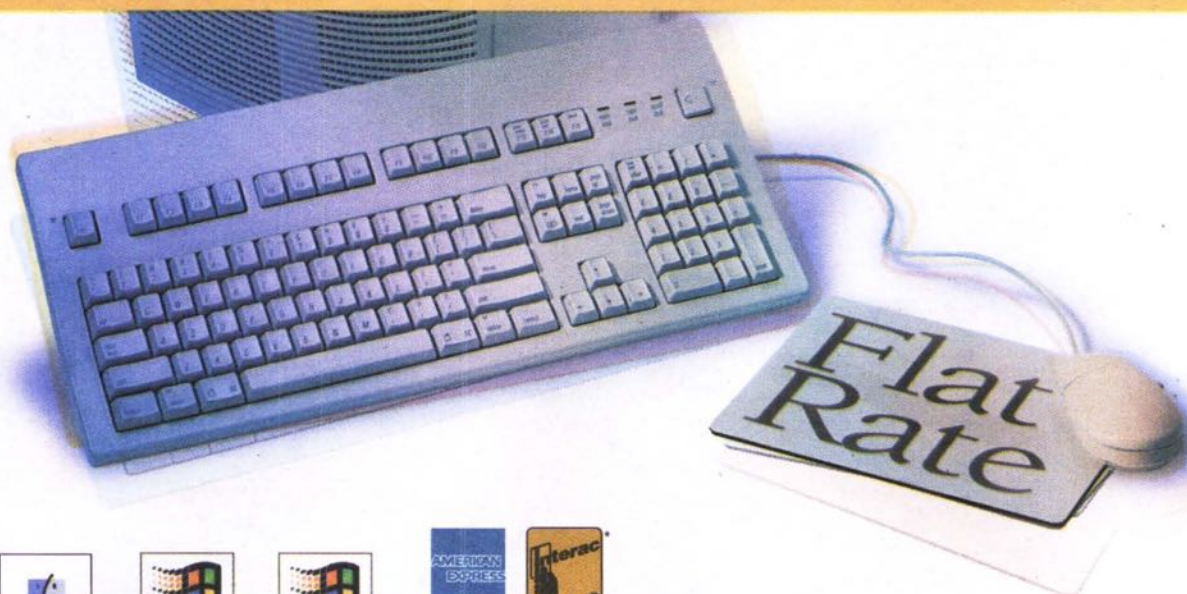


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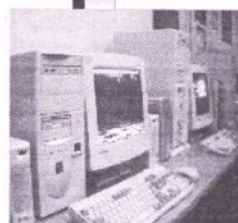
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Mapping the new trade routes



Spring has well and truly sprung in Vancouver, and along with the pollen filling the air comes a blossoming of studies and reports that offer us a glimpse into the future. Early March saw Statistics Canada release new figures on employment and use of technology from the 1996 census, a study on employment from the Canadian Imperial Bank of Commerce (which champions the plight of unemployed youth and contradicts Stats Can's figures), as well as the 1998 technology forecast from Price Waterhouse. The release of these reports coincides nicely with this month's theme—careers. The studies all offer insights into how business is being changed by new technology, and how those changes will trickle down (though the trickle is often more of a tsunami) and affect the people who do the jobs.

Not surprisingly, Price Waterhouse predicts a massive increase in business conducted via the Internet. The company's technology analysts foresee an explosive growth from now through 2001 that will affect businesses large and small, as well as workers, and consumers.

But this growth will not be from the type of business uses of the Internet that have been common to date—simple extensions of the marketing department promoting a company's products and services. The growth will come from the ability of businesses to connect directly with the individual and corporate consumer.

According to Terry Retter, Price Waterhouse's director of strategic technology services, "The real growth is occurring in business-to-business electronic commerce.... Between 1996 and 1997, business-to-business trade doubled every six months and this is accelerating to double every three to four months in 1998. By 2002, the value of goods and services traded via the Internet will increase to \$434 billion." The forecast also predicts a nearly 1,800 percent increase in consumer purchases via the Internet between 1997 and 2002, from \$5 billion to \$94 billion.

As the paths between producers and consumers are transfigured, so too will be the jobs of those who earned a living plying the old trade routes.

At CP! we recently had a clear glimpse into this future thanks to a foul up by a high-profile courier company that won't be named here—suffice to say the unnamed firm is now our "ex"-courier of choice.

Our Toronto office had entrusted a disk of artwork to this company,

which promised it would arrive the next morning. It arrived the next morning—but in Montréal. I spent most of the next day and a half (it was a weekend) on the phone with the courier and an airline. As our deadline drew nearer without the arrival of the package, the general manager of our office decided to employ extraordinary measures and try to get the data electronically—a method that has been tedious and glitch-filled in the past. In the end, we were able to easily download 119 MB from the art director's desktop in Toronto to our desktop in Vancouver in under two hours.

With this we turned a corner in our thinking. And around that corner we could clearly see a day when we'll receive ads from clients and deliver our finished publication to service bureaus and printers electronically. This is great for us and our clients, but bad for the courier.

This trial by fire boosted our confidence in the ability of the Internet, a confidence that Price Waterhouse's Retter says results in the Internet being transformed from "an innovative novelty to a competitive requirement."

Copies of the technology forecast can be ordered by email from pwtechforecast@canada.notes.pw.ca, or by calling 604-682-4711. Price Waterhouse is also releasing technology forecast for Vancouver. We'll bring you details of it in the May issue, but in the meantime, you can check it out online at <http://www.pw.com>.

In this issue

While we focus on how technology affects those in the workplace this month, we also turn our attention to those who are about to leap into the workforce. CP! editorial assistant Adriana Barton looks at how employers are using the Internet and the Web as job recruitment tools (see page 30). She also explores how job hunters need to tailor resumes to meet the demands of this new technology.

We often hear about how technology is eliminating jobs, but this month CP! contributor June Campbell profiles one job sector—technical communication—that is exploding as it tries to keep pace with the demand for its services (see page 19). Technical communicators are the men and women who create the manuals for software, hardware and technical services.

Let us know what you think! And let us know how technology is changing your workplace and the way you do your job.

Megan Johnston,
Associate Editor, meganj@tcpn.ca

Your letters please

Letters on issues raised in the paper or general computer topics are welcome. Please be brief. We regret that we are unable to look up stories from past issues, suggest products, or solve all your computer problems. Only those with names and e-mail or snail-mail addresses will be published. Letters may be edited for space or content.

The Editor,
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Kevin to the rescue!

Thank you for your timely Win95 disaster-recovery article ("Basic Windows 95 disaster recovery," February 1998). The SYSTEM.DAT, USER.DAT procedure restored a computer to life that had resisted my previous efforts at a cure. I could not make it boot to safe mode. It completely ignored my tapping of the F8 key. I could, however, start it with a boot disk.

Another Win95 machine that had a problem did not respond to your procedure, but

it did respond to my usual first procedure, which involves replacing WIN.INI and SYSTEM.INI by renaming WIN.BAK and SYSTEM.BAK. Although you indicated in your article that the registry has taken over from these two files, I find that they are still important.

Thanks again for knowing what to write, and more importantly, knowing when to write the article.

Mike Goble

I thought that I was on top of this, so I tried my boot disk and couldn't get to the CD-ROM! I've corrected this problem and done a scandisk. I'm now a little more confident that when my drive crashes, I'll be prepared.

Richard Malinski

When booting up and pressing F8, one gets a menu that further confuses the issue. How about just pressing F5 and going straight into "Safe Mode"?

Thanks and been there,
Erik Bosma

Klub Kevin continued

The magazine is doing great, as usual. Keep up the great work! I also wanted to say I've always enjoyed Kevin Linfield's column, from the days of OS/2 to now, with his informative technical articles. Kevin's column adds to the

completeness of [Computer Player! and other Canada Computes! titles]. Please keep him onboard.

Jad Saliba

A hard ACT to follow (or find)

I read your article on the PowerRamp Mite made by ACT Labs, and was very interested in getting it. There is one slight problem, I can't find any computer store that carries it or that has even heard of it.

Tony Ganhao

Thanks for your letter. Oddly enough, ACT Labs' peripherals can be hard to find in Canada, even though they are out of British Columbia! I suggest you visit ACT's Web site (www.actlab.com) and look for the "retail" button on the left side of the screen. This will give you a list of stores in your area.

Marc Saltzman

OOPS!

We had bad luck with tax Web-site addresses last month. Please note the following corrections:

Icicle Tax Web site:
<http://www.netcom.ca/~icicle>
Quick Returns Web site:
<http://www.aracnet.net/~qrs>

We regret any inconvenience this may have caused. ♦

3Com releases Palm III

BY LYNN GREINER

3Com has announced the next member of its hugely successful PalmPilot family handheld computers, the Palm III organizer.

The Palm III replaces the PalmPilot Professional at the high end of the line; the Professional will be retained as a mid-range offering, with the PalmPilot Personal at the bottom. Prices of the two PalmPilot models have been reduced by 25 percent to reflect these changes. The PalmPilot Personal now lists for \$279, and the Professional for \$429.

The Palm III offers a sleeker form factor, flip-up screen cover, higher capacity, and infrared connectivity that currently can only exchange information with other Palm

III organizers. It can handle up to 6,000 addresses, five years of appointments (about 3,000 entries), 1,500 ToDo items, 1,500 memos, and 200 email messages in its 2 MB RAM. It is equipped with flash ROM to allow easy upgrades of its operating system.

The infrared "business card" option allows two Palm III users to exchange electronic business cards by aiming their Palm III's infrared ports towards each other and pressing the Address Book button. Other data may also be exchanged, but in all cases the recipient has the ability to decline the transfer. Developers can also add security to their applications to prevent unauthorized transfers of licensed applications.

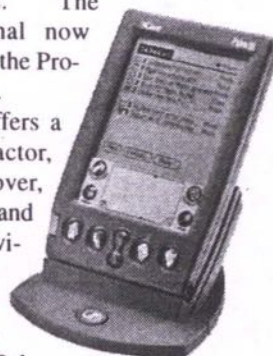
Third-party friendly.

The desktop software has been enhanced with easier installation of third-party applications, and cosmetic improvements. Email connectivity with Microsoft Exchange, MS Outlook 97, MS Outlook Express, Lotus cc:Mail, and Qualcomm's Eudora Pro is built in, and third-party connectivity to other packages is available. Previously an option, Network HotSync is now free for the Palm III and PalmPilot Professional.

The Palm III is compatible with Windows 95 and Windows NT 4.0. Macintosh connectivity is expected this summer. Windows 3.1 connectivity is available only on the Personal and Professional models. Existing PalmPilot accessories, such as modems and cables, are compatible with the Palm III.

An upgrade kit for the PalmPilot Professional, including the additional memory and infrared capabilities, is expected in June, with an estimated price of \$179. Pilot 1000 and 5000 users will be offered a rebate of \$105 if they upgrade to

the Palm III. The suggested retail price for the Palm III, (available this month), is \$549. ♦



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Online news for Chinese readers

Vancouver's Chinese community can now access local news and information in Chinese text from a new Web site created by BC Telecom and ACT360° Media. Launched Feb. 18, the Sympatico BC Chinese Web site covers such topics as immigration, schools, health care, citizenship, lifestyles and legal issues.

Visitors to the site can prepare for Canada's citizenship test or a driver's exam through an online quiz, enter a virtual chat room to communicate with overseas friends and relatives, as well as find a local math tutor in the classified ad section.

"We want to bring British Columbia's Chinese community into the mainstream and help them enjoy life in Canada," says Alex Pui, president of ACT360° Media, a Richmond-based multimedia production company specializing in Asian content and education.

"Internet users in Asia who are planning to move to B.C. should check out this site," he added, "I wish it existed when I moved to Canada four years ago."

Sympatico BC, Chinese Web site
<http://www.bcchinese.com>

—Adriana Barton

E-lasso rounds up surveys

Necessity was the mother of invention for a Vancouver survey and research company. Disappointed by the quality of software available for conducting email surveys for its clients, Analyses.Net developed its own proprietary package, according to the executive research director, John Jensen.

"Our software package, E-lasso, does all the things you'd expect it to do, but it also has some special features," says Jensen.

E-lasso can code responses on the fly, he explains. If, for example, a survey respondent left a field blank, the software would automatically detect the error and send an email to the respondent, requesting a correction. As it has unlimited capacity, E-lasso could theoretically distribute a survey form with a thousand questions to one million respondents, says Jensen.

"We have a niche market. We do full survey service, including designing the questionnaire, collecting and analyzing the data and preparing a report for the client. It's completely handled by email."

Analyses.Net conducts surveys of employees, customers, Web site visitors, ISP customers and others. Clients include PMC-Sierra

of Burnaby, and Interliant from Texas.

<http://www.analysis.net>

Tel: 604-899-1124

—June Campbell

Net community meets at Whistler

Net '98, a national forum on Internet-related issues, is expected to draw about 400 participants to the Whistler Conference Centre, May 10-11. Delegates will include representatives of major networks, Internet service providers (ISPs), information technology and systems (IT and IS) managers, software and multimedia developers, university networks, and Industry Canada representatives.

Speakers will cover topics such as virtual community building, e-commerce tools, Canadian government e-commerce policy, Internet content regulation, and the state of the ISP market in Canada.

Net '98 is run in collaboration with organizations, such as Telecommunities Canada. Registration is \$250.

<http://net98.bc.ca>

—Adriana Barton

continued on page 15

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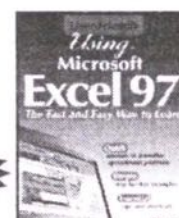
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Eurotrash vs. McGyver

The real PCS competition

As your intrepid reporter, I've been testing the PCS phones on the Canadian market: Cantel/AT&T, Fido/Microcell, Clearnet/Mike Network, and Bell Mobility. Walking down Queen Street West or Robson Street with four phones on the go, I felt like Eurotrash and I loved it. You will, too.

BY CARYN MLADEN

Paraphrasing the commercial, it's finally time to get a PCS phone. Digital phone systems have been (mostly) debugged, their range widened, functionality increased, and the serious competition amongst all the service providers makes PCS affordable.

PCS stands for personal communication system. It includes a digital wireless phone (as opposed to an analogue cellular phone) that can accept and send short text messages, store information, and sometimes even play games.

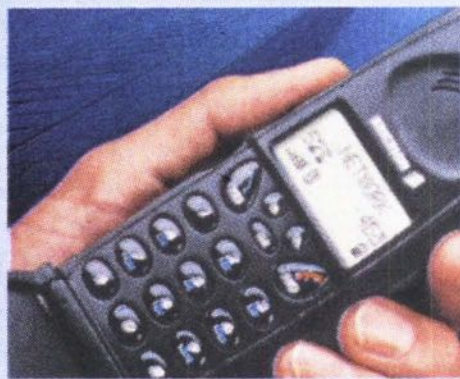
There are many similarities between the four different PCS companies. First, they're all working from the same frequency, so pickup ability is pretty much the same. All have "wide-screen" phones (about 3.8x2.54 cm, or 1.5x1 in.). Digital phones use lithium-ion batteries, which last much longer than the old nickel-cadmium batteries, and don't have a memory effect that decreases the memory capacity virtually every time you charge the battery.

Features great and small

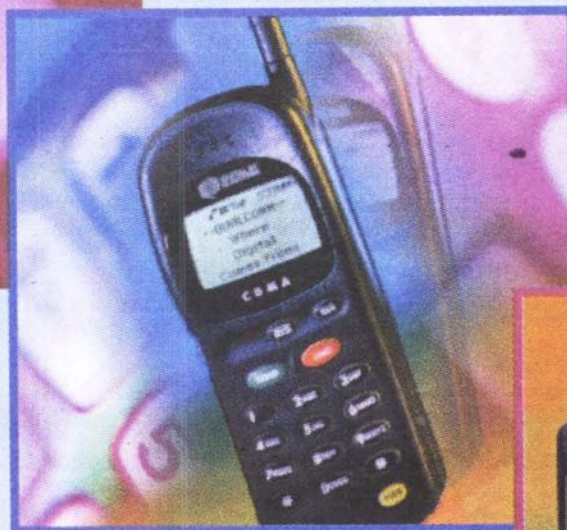
You generally get call forwarding, call waiting, and conference calling capabilities included in your package. Call display is extra with Bell Mobility and FIDO, and other extras, such as paging, email, and voice mail, cost more or are included in a higher cost package with all companies. Digital services offer per-second billing, as

opposed to analogue services, which charge by the minute—even if you only use the first second. Finally, dual-mode digital phones switch to analogue coverage when you are outside the digital network region.

I found call clarity was best on Bell Mobility while in Toronto and Clearnet while in Vancouver, although the reason for the difference eluded me, and the differences were not enough to sell me



there is quite a variety on the market. I mention some of them here, but check the competing dealers for the best prices and options. Many phones list for about \$150, but you can get them



for as low as \$50, or free with a long-term package.

Bell Mobility

Both Bell Mobility and Clearnet provided a similar Qualcomm phone, although Bell Mobility's QCP 2700 was configured in a more rational way. One thing that bothered me was the long time necessary to hold down the Power key to turn the phone "off." Apparently, this is intentional, so that your phone doesn't mistakenly turn itself off while jumbling around in your purse or pocket. Frankly, I found this an unnecessary precaution, as none of the phones even

attempted a shutdown while all four were cuddling up together in my bag. Still, functionality was good and sound quality was terrific.

Cantel

Cantel and FIDO both work with Ericsson phones, and Cantel also offers the less-expensive Amigo lines. Cantel's big advantage is its range, working virtually all across Canada on the same network. If you travel outside major cities a lot, this may be your deciding factor.

Clearnet

Clearnet has all the basics covered with digital service, but also offers the Mike Network with two-way radio functionality. It acts as a digital phone and dual-band radio all in one, so that you can keep in constant contact with, for example, your sales or remote staff. FIDO also offers dual-band service, so check out both companies if this option appeals to you.

FIDO/Microcell

My first contact with FIDO was less than promising, although the company more than made up for it. Other than the offensive ads (that guy in the boardroom has got to go), I waited on hold for half an hour before getting someone in customer service. If that's their response before I've signed up, I shudder to think how long someone would wait for service to an existing line.

continued on page 18

on a particular company. Clarity in all the services is vastly improved over analogue versions. Some spottiness did occur periodically—despite company claims—in high-traffic downtown areas, at the Ontario Place Cinesphere, and at the airports. Long-distance calls were as clear as local calls, however, and all the phones provide strong digital pulses, even on a home phone machine that requires a long beep to allow pickup of messages.

Differences in the service are often dependent on the phone itself and

	Bell Mobility	Cantel	Clearnet/Mike Network	Fido/Microcell
Features	none	3 years, but only when you get a free phone	none	none
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Configuration	Buttons easy to read and find, plus good ear feel on QCP 2700	Ericssons are sleek with useful extra buttons: Recall and Menu, but special buttons should be separate from the numbers. Why do we press "No" to turn the phone on?	Good hand feel, but buttons hard to read and Power, Mail, and Clear should be separate from the numbers	Some buttons hard to read, although new lightweight Nokia 6190 makes up for it with sleek factor and extra features
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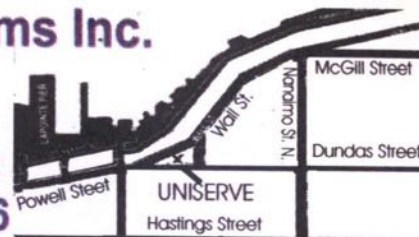
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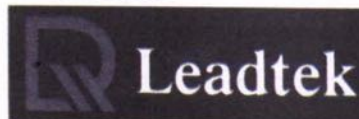
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166MMX	1488
200MMX	1518
233MMX	1618

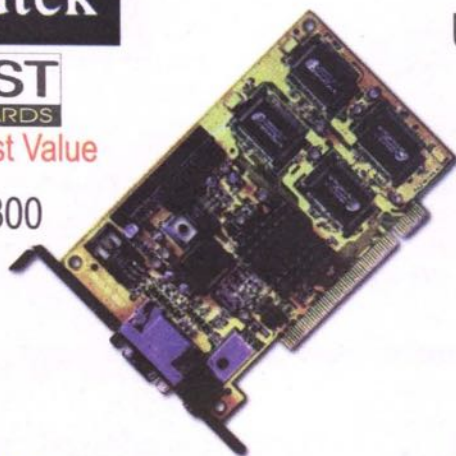


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Panasonic CF-63
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Tel: 905-624-5505.
<http://www.panasonic.ca>

Toshiba Tecra 750DVD
Suggested retail price, \$9,219.
Tel: 800-387-5645. www.toshiba.ca

BY LYNN GREINER

When we last looked at notebook computers a few months ago, some new trends were emerging. Notebooks were getting faster and (sigh) heavier. As more and more integrated devices are included, and more and more functionality demanded, manufacturers are producing machines that can, in some cases, almost outdo a desktop system.

But there's always a price to pay for goodies. Although we can now get notebook computers with super-fast processors, built-in CD or DVD drives, and sound and full-motion video playback capabilities, it's at the cost of expandability and power.

I recently had to set up two separate hardware profiles under Windows 95 on a notebook that was so feature-heavy, it didn't have enough free interrupts to service both modem and network interface at the same time. The user must choose, at boot-up, between using the modem or talking to the network. And until new interface methods such as universal serial bus (USB) are common, and the old methods and peripherals are retired, we're going to see more and more of this type of problem on both notebooks and desktop machines.

The other cost is power: not raw processing power—we're feasting on that—but electricity to run the machines. Battery technology is moving just fast enough to almost maintain the status quo. A couple of years ago, our less powerful machines managed to eke three hours or so out of a battery charge. Today's more energy-efficient, but more heavily loaded, systems are still stuck at the same battery life.

We took a peek at three new systems that illustrate the magnitude of the changes in the notebook universe. Two of them boast DVD drives; the third gets by with a CD-ROM, but has a blazingly fast processor (this week—funny how today's "fast" is next week's "wimpy").

Compaq Armada 7380DMT



The first machine (alphabetically) is the new Compaq Armada 7380DMT. At 2.7 kg (6 lb.), it's by far the lightest of the trio, and also the fastest, with a 266 MHz Pentium processor

with MMX. The display is a lovely, bright 12.1-inch TFT screen—not the largest on the

market, but a comfortable size for notebook viewing. Its maximum resolution is 1,024x768.

The system comes standard with 32 MB RAM and a 4 GB hard drive, plus a 20x CD-ROM that shares a bay with the 3.5-inch floppy drive. There does not appear to be a way to use both simultaneously. Compaq does, however, supply protective cases for both the CD or floppy, and for the removable hard drive, as well as a soft case for the computer.

There's a built-in 33.6Kbps telephony modem, complete with connections for cellular phones as well as the usual line jack. Dual CardBus PC Card slots provide expandability, and there's the usual set of ports, including one for a docking station or port replicator, and a 4 MBps IrDA-compliant infrared port. There's no built-in USB. Twin stereo speakers (providing reasonably decent sound) occupy the front corners of the case. Volume-control buttons are above the keyboard, along with four user-programmable keys.

The keyboard is rather flat, although flip down feet let you position it more comfortably. To me, the touch is merely okay; it isn't the worst I've used, but a long way from the best (keyboards are an intensely personal thing, so be sure you try before you buy). The pointing device is a trackstick.

Panasonic CF-63

The Panasonic CF-63 looks like an ordinary high-end notebook, until you get curious about the switch in front of the keyboard. Activate it, and a motor whirs, the keyboard rises, and from beneath it emerges a DVD-

ROM drive. The unit boasts a 166 MHz Pentium processor with MMX, 13.3-inch TFT display, 32 MB RAM, and a 3.2 GB hard drive. The pointing device is a touchpad. The keyboard feels comfortable, with a good touch.

Four stereo speakers live at the base of the screen bezel, and provide reasonably good sound. DVD playback only works if you insert the FMV (full motion video) Pak that comes with the system into the Multimedia

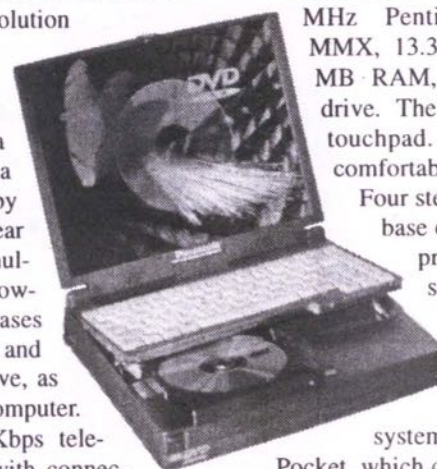
Pocket, which can also hold the floppy drive. Getting things into and out of this pocket is a non-intuitive exercise involving pushing in a button, sliding a panel to one side, and then yanking the front of the device out of its connection.

The quality of the DVD video and audio is very good, aside from a bit of shimmer on some images, but the drive is very picky about being horizontal while it's operating. If it's at a slant (say, sitting on your knees at a slight angle), a message says the drive is not accessible.

The two PC Card slots have no covers, but contain plastic fillers that can be lost in no time. The port collection includes the usual serial, parallel, external video, mouse/keyboard, headset, and microphone (a mic comes with the system), plus a single USB port.

Battery life is reasonable at about three hours, with a fair bit of DVD use. The CF-63 isn't exactly a road warrior's dream, though, since it tips the scales at close to 4 kg (9 lb.).

continued on page 17



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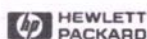


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High-end PCs

Fast like cheetah, cheap like bird

Welcome to the new, improved **CPI** hardware roundup. In the past, the roundups were done as freelance pieces and all products were tested by reporters working at home. Alas, this limited the number of products that could feasibly be tested. So, ever trying to improve, **CPI** has hired me, **Owen Ferguson**, to be an in-house hardware analyst. If you have questions about me or these roundups, feel free to contact me—my email address is at the end of this article. Now, on with the **fun!**

BY OWEN FERGUSON

There are lots of mid-range computers available at rock-bottom prices these days. But things that don't cost much—and aren't ultra high-end—just aren't worth fantasizing about. This is why car magazines rarely have station wagons on their covers. This is also why I'm glad my first hardware roundup here at **CPI** deals with high-end systems. Forget those cheap chipsets and no-name CD-ROMs—give me raw power, and lots of it.

In setting up this first roundup, I asked participating vendors to send us their fastest system available, with whatever components they considered best. A few systems included nice extras—LS-120 drives, DVD-ROM drives, high-powered speakers—but speed is king, so it was the deciding factor. I've rated the systems by overall speed, and by performance versus price.

The systems were tested with BAPCo sysmark32 benchmark software, running Windows 95 at 1,024x768 resolution and 32-bit colour depth. I then calculated two percentage rankings for each system.

The first (Speed) was found by comparing each system's overall BAPCo result with that of the highest-scoring system (which gets the "100%" score). The second (Bang for your buck) was calculated as a percentage of the highest-scoring system's price/performance ratio.

The results of this roundup are, to say the least, shocking. Dream-machine PCs are supposed to cost lots of money, and most of them do, but some of the best systems I tested were also relatively cheap.

Comtronic Elegro PII

CPU: Pentium II 300 MHz
RAM: 64 MB SDRAM
Video: Diamond/Monster 3D 4 MB
Sound: Sound Blaster AWE 64
HD: 6.4 GB
CD: 32x
Modem: 56K
Extras: None
Warranty: 2 years parts/2 years labour
Price: \$2,499
Speed: 76%
Bang for your buck: 62%

This is the only system to include a Monster 3D card, which certainly makes it more appealing from a gaming point of view. Where the system suffers, however, is in its choice of processor and lack of both RAM and video RAM. Although some configurations (like Elco's) perform unbelievably well using a Pentium II 300 MHz chip, this system reveals the chip for what it really is—the poor sibling to the Pentium II 333 MHz. Especially when coupled with half the RAM and video RAM of the competition, this 300 MHz machine simply fails to perform as well as the pack.

Edge KTX P-II 333 System



CPU: Pentium II 333 MHz
RAM: 128 MB SDRAM
Video: Matrox Millennium II 8 MB
Sound: Sound Blaster AWE 64
HD: Seagate 4.5 GB UW SCSI
CD: Mitsumi 32x
Modem: None
Extras: LS-120 drive
Warranty: 2 years parts/2 years labour
Price: \$5,000

Speed: 93%

Bang for your buck: 38%

This system is a bundle of high-quality components. All the parts of this machine are brandname goodies, and the resulting machine really hums. Unfortunately, these pieces all come at a high cost—this is the most expensive machine in the roundup. For those of you who like name brands, pick up this system. Think of this computer as a Rolls Royce—it may not be the fastest thing on the road and it costs a pretty penny, but it has the universal recognition that quality brings.

Edge Computer Ltd., Tel: 905-948-0000

Elco Pentium II 300



CPU: Pentium II 300 MHz
RAM: 128 MB SDRAM
Video: 3DLabs Picasso AGP 8 MB
Sound: Sound Blaster AWE 64
HD: Fujitsu 3.24 GB UDMA
CD: Liteon 24x IDE
Modem: Harmony 56K
Extras: None
Warranty: 2 years parts/2 years labour
Price: \$1,950
Speed: 96%

Bang for your buck: 100%

This is an amazing system, a system that defies all logic. It's cheap, really cheap—the cheapest I tested. And fast, really fast—it was outperformed by only two systems in the roundup.

Why is it so cheap? I have no idea. All of the components are respectable name brands, although the hard drive is a little smaller than average. Why is it so fast? That's even more of a puzzle; the CPU, at 300 MHz, is theoretically one of the slowest in the roundup. This system performs as though it's been overclocked, even though it hasn't.

If you're looking to buy a computer for under two grand, this is the one to get.

Elco Systems, Tel: 905-470-7301

Fastech Compucon PII333M



CPU: Pentium II 333 MHz
RAM: 128 MB SDRAM
Video: Leadtek Winfast 3D L2300 8 MB
Sound: Sound Blaster AWE 64
HD: Seagate 4.5 GB UW SCSI
CD: Panasonic 24x
Modem: SupraXpress 56K
Extras: LS-120 drive, 180W speakers
Warranty: 2 years parts/2 years labour
Price: \$4,650

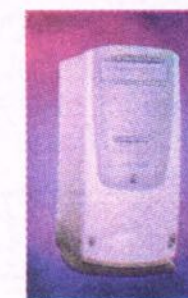
Speed: 92%

Bang for your buck: 40%

Although it performs quite well, this system contains a number of less-than-impressive components, in spite of its rather hefty price tag. The most notable is the Leadtek video card, a solid performer but certainly not the best card in its price range. Other things that I'd like to see for this price are a USB modem, a faster CD-ROM drive, and a longer warranty. The LS-120 drive and powerful speakers are a nice touch, but not nice enough to warrant the cost.

Fastech Computer Ltd., Tel: 604-279-9686

Hewlett-Packard Pavilion 8280



CPU: Pentium II 333 MHz
RAM: 64 MB SDRAM
Video: ATI Xpert@Play AGP 4 MB
Sound: Ensoniq 3D
HD: Maxtor 8 GB UDMA
CD: Hitachi DVD
Modem: K56Flex
Extras: Multimedia speakers, software
Warranty: Varies
Price: \$3,499

Speed: 75%

Bang for your buck: 43%

This system is obviously designed as a family computer. It's not as powerful as the rest, but it's not really aiming to be a power machine. The large software bundle (which includes Microsoft Works, Microsoft Money 97, Microsoft Encarta 98, and a slew of other possibly useful applications) covers a broad range of possible users rather than targeting any particular age group. Also, the 8 GB hard drive is ready to accommodate the storage

COMPUTER PLAYER!



EDITOR'S CHOICE

STD. CompuPartner
Ultra333D ATX
Fast, with good quality components and at a price that leaves you with enough cash to buy some cool add-on peripherals.

continued on page 23

BC news briefs ...

continued from page 8

projects to provide starting points for users, according to MC2's Andrea Walsh.

Zebu enhances interactive learning by allowing students to create and edit online projects, discuss ideas with each other and share valuable learning resources, Walsh says. Students and teachers can use information from the Web and other sources to build projects together in the familiar environment of their Web browser software.

<http://www.mc2.sfu.ca>

—June Campbell

Beat the millennium bug

Just in time for the turn of the century, Self-Counsel Press has released *Computer Crisis 2000*. This new title from the North Vancouver publisher details survival strategies for small and medium-sized businesses facing the "millennium bug," a problem that the Gartner Group (an American Year 2000 think tank) predicts will force one to 10 percent of companies worldwide to go out of business.

The computer glitch of the century will create chaos ranging from banking transaction crashes and loss of electricity to transportation system breakdowns, according to author W. Michael Fletcher, a CGA and chief executive officer of HighSpin Corporation, a management consulting firm that focuses entirely on the Year 2000 crisis.

After describing the magnitude of the problem, Fletcher offers suggestions on how businesses can prepare for the up-coming disaster.

Suggestions include establishing priorities for a company's own computer system, implementing a detailed Year 2000 plan, and creating business opportunities in the midst of the chaos expected to strike at the dawn of the 21st century.

Computer Crisis 2000 (ISBN: 1-55180-138-8) has a suggested retail price of \$15.95.

—Adriana Barton

CDIS expands new media training centre

The Centre for Digital Imaging and Sound (CDIS) has completed its 3,500 square foot expansion, a move that will accommodate the Burnaby institution's new Commercial Animation Department.

"Until now, the school was strictly offering Softimage and Alias software training. Now we have added traditional drawing and classical animation. We're responding to what industry told us they wanted: trained artists and animators who have the necessary software skills," says CDIS executive director, Niels Hartvig-Nielsen.

In other areas of the campus, CDIS has opened an Electronic Café, a new sound stage, a 20-station SGI lab, and a third digital multi-track recording facility for student lab use.

The school is also expanding beyond campus boundaries with its new Home Extended Learning Program (HELP), which will allow students to combine at-home learning with classroom instruction.

"We'll be issuing them [students] computers, if needed, and software packages for

them to take home and work on. It's aimed at people who like to work independently," says Hartvig-Nielsen.

CDIS is a private educational institution, which offers courses in multimedia, Internet, computer graphics and a music and recording program.

<http://www.artschool.com>
Tel: 604-298-5400

—June Campbell

B.C. news briefs were written by Adriana Barton and June Campbell.
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June Campbell can be reached by email at campbellj@istar.ca, or call 980-3261 during business hours.

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Surviving the tech roller coaster

BY TOM KLEIN

Technology stocks have been on a roller coaster ride over the past year and the short term outlook looks like more of the same. So how can investors reduce the big price swings when investing in the technology sector? The earnings—or how much money a company makes—are the most important factor affecting a company's stock price. So any news that has an impact on future earnings can have a dramatic effect on stock prices.

Since October 1997, the market has been concerned about the economic crisis in Asia. The slowdown in growth in Asia will have a negative affect on many technology companies looking to expand their market into that region. The slowdown in growth means lower future earnings, which may lead to lower stock prices. It is important to follow macro trends in the technology industry and gauge the affect on earnings.

Even more dreaded than a sector slowdown is when a company warns of an earnings shortfall. This company-specific news can signal significant problems within a company and can lead to rapid price declines. Recent

The slowdown in growth in Asia will have a negative affect on many technology companies looking to expand their market into that region. ...Beware of companies that explain away all of their shortfalls on the Asian crisis.

revenue shortfall warnings from Intel, Motorola and Compaq have shaken investor confidence and even these established companies saw the value of their shares fall between 10 and 20 percent in one day. The revenue short falls were partially attributed to the problems in Asia, but other factors were cited.

Beware of companies that explain away all of their shortfalls on the Asian crisis. A closer look at inventory management, order backlog, marketing and product development may reveal problems not related to Asia. Scrutinizing a company's earnings is the most important factor of evaluating companies.

Looking beyond earnings

Let's look at the PC sector as an example of looking deeper into future earnings potential. PC makers have had phenomenal gains

over the past few years, is this recent weakness a buying opportunity? The pullback in box maker share prices may be a sign that companies are experiencing inventory build ups and therefore could be losing market share. Investors should take note because high inventories and declining market share can lead to aggressive price cuts. Unfortunately, price cuts affect all related tech companies even if they don't have inventory problems. A price war can lead to a sector slowdown, which is why buying on dips in tech stocks should be analyzed carefully. Computer retail prices have been falling faster than in the past and this could play a factor in future earnings. I would be cautious about buying the dips in the PC sector.

In the long term, I think the larger computer manufactures are good investments but the industry is maturing and developing into a more cyclical business. It seems the explo-

sive growth is slowing down and a battle for market share is developing. These are not trends conducive to higher share prices for the short term. I suggest recent investors rethink their purchases as the risk return profile for this sector has gotten much higher. If you bought Dell, Compaq or Hewlett-Packard years ago hold your position but don't expect the returns of the past two years in the near future.

Signs of recovery

Conversely, at some point a weak sector may be turning the corner and therefore becoming a timely investment. An example of a sector that has been weak of late but is showing signs of recovery is the networking sector. Inventory levels are going down, prices have started to stabilize and margins are on the rise.

These developments are pointing towards improving earnings forecasts with greater earning predictability. Look for Cisco Systems and Lucent to continue to outperform, and 3Com and Newbridge Networks to bounce back through out the year. This sector

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Notebook computer update ...

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Toshiba Tecra 750DVD

At just over 3.6 kg (8 lb.), the Toshiba Tecra 750DVD is also a shoulder-killer, but it packs a whole lot of features. It has a 233 MHz Pentium processor with MMX, 64 MB RAM, 4.77 GB hard drive, and 13.3-inch, 1,024x768 TFT screen. Its DVD drive lives in a bay that can also house a floppy drive or

a second hard drive. Since the floppy drive can also be attached using an external cable, it can be active at the same time as the DVD drive. Graphics are driven by S3's ViRGE/MX 3-D graphics accelerator, and the system has s-video ports, and built-in analogue NTSC encoding outputting to composite. External



video can actually be at a different resolution than the simultaneous LCD display.

As if gorgeous full-motion video isn't enough, the 750DVD also comes with Intel ProShare videoconferencing, with a camera mounted on one side of the screen, a microphone, and all the software you need. A built-in V.34 modem

provides connectivity to the rest of the world.

There are infrared ports on both front and back of the system, and two USB ports on the side by the external floppy-drive connector, as well as the usual suite. The keyboard is quite respectable, with a responsive touch. The pointing device is a trackstick.

Battery life is in the three-hour vicinity with DVD use, which, although insufficient, is impressive given the drain of motorized peripherals like the DVD drive. ♦

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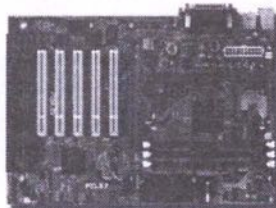
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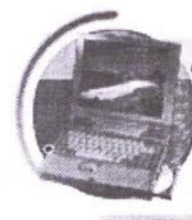
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continued from page 10

courteous, however, apologizing and admitting their staff hiring has not kept up with demand. Besides, the top-of-the-line, feature-rich Nokia 6190 became my phone of choice in my Vancouver trials. You can personalize the 6190 for different settings according to loudness, distinctive ring tones, and more, plus it has a clock, calculator, calendar, games, and phone book accessible by first initial. The feel of Microcell's Nokias and Ericssons are sleeker, less body-sculpted than the Qualcomm phones. I prefer the sleek factor, but it's a personal choice. Note, for FIDO, you have to pay \$50 for chip activation.

The avatar had a pleasant human voice and gave cute messages ("You can interrupt me anytime. Don't worry I'm used to it.") that were even better than the "This delay is not intentional" message I heard repeatedly while waiting for someone in customer service. You communicate with these digital people all day, so why shouldn't they be fun?

Bells and whistles: and who's hearing them

In terms of functionality, what I really wanted was a phone that allowed for multi-tasking so that I could listen to a message and store the number I heard into my digital phone book at the same time. But perhaps that's asking too much. There has to be a reason to upgrade.

One myth I want to debunk is that digital service is more secure and private than analogue service. Sure, any McGyver-in-training can listen in on your analogue calls with a scanner from Radio Shack, and he or she cannot do so with digital service. If, however, someone with access to high-tech equipment—say, for example, the government or any large company—wants to focus on you, the clarity of the digital signal makes it much easier to find and record your conversations. So, while digital phones are not less private than analogue phones, at least no one claims that analogue phones are private. Digital phones simply cannot deliver the absolute security they promise.

In short, PCS is a terrific tool because it has clearer sound, offers greater functionality, and, most importantly, it's cool. Don't expect privacy any more than you would get elsewhere, but do enjoy the paging, voice mail, and email all-in-one little device. To help you decide which service is for you, check out the chart. Remember, everyone also has to pay the government's annual \$48 PCS licensing fee for the privilege of using the airwaves. But don't blame the PCS companies for that.

Choose your service by comparing for price, range, and the options you want to get to customize your communications. The increase in ad campaigns is evidence of an increase in competition, so see what extras you can wheedle in exchange for your business.

Ciao all—call me! ♦



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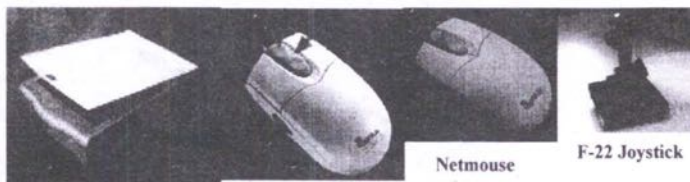
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digital workforce

Ombudsmen for the end user

Technical writers help make geek speak user-friendly

BY JUNE CAMPBELL

Ever wonder who creates the technical instruction sheets that we all love to ignore? The writers and illustrators who produce software documentation, help files, computer how-to books, policy and procedure manuals, and even the instructions for your VCR, are called technical communicators.

"We're the ombudsmen for the end user," explains Bruce Byfield of Outlaw Communications. "When we can't figure something out, we ask dumb questions to the SME's (subject matter experts) so you don't have to."

As a member of the employment referral team of the Society for Technical Communication (West Coast Chapter), Byfield has had ample opportunity to observe the employment trends affecting his rapidly growing industry.

"Fifteen years ago, people in this industry were called technological writers," says Byfield.

"Now we're called technological communicators, as we include illustrators, as well as people doing multimedia, computer-based training, marketing communications, and technical editing. People have specializations."

Byfield says the ability to write concisely and clearly is vital, however, changing conditions require that a technical communicator have a variety of skills, including desktop publishing and design expertise. Technical communicators are responsible not only for the content, but for the layout and appearance

of the work they produce. The document has to be consistent with a corporation's public image, Byfield explains, but the project should also incorporate work-saving technologies in order to be distinctive.

"A major part of what makes a technical writer stand out is that they keep current with technology and the expectations [of the market]," Byfield says.

He points to Acrobat PDF (portable document format) as a technology that has, in a single year, altered the way technical communicators work. It allows creators to take a document designed for paper and put it online instantly. Before Acrobat PDF, online and print documents had to be designed differently.

Using a single document source is another trend, according to Byfield. Working from one main document, you export one version to HTML, another to Acrobat, and another version as a paper document.

This method is popular because less work is required to create documents for several delivery formats.

Byfield says Adobe's FrameMaker 5.5 is emerging as the industry standard software for technical communicators, since it exports to PDF files and includes a sophisticated HTML converter. Technical communicators also use Microsoft Word, but the application is losing ground to FrameMaker, according to Byfield.

"There's an increased emphasis in the high-tech world towards the value-added aspect as competition is fierce in some places," says Byfield.

"Businesses are looking for ways to make

their products easy and more attractive to use."

Byfield stresses the importance of knowing how to write for international audiences and being familiar with how usage varies from culture to culture. "For example, it's considered insulting in France to use bullet lists. There are icons that have a cultural meaning

that may be unacceptable in another country."

One last piece of advice for us all: When all else fails, read the instructions! ♦

June Campbell can be reached by email at campbellj@istar.ca, or by phoning 604-980-3261 during business hours.

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Since its formation seven years ago, the West Coast Chapter of the Society for Technical Communication has acquired a membership of roughly 180 people. The Chapter offers networking opportunities, educational events, an award-winning newsletter and Web site. A popular feature of

the Web site is the members-only Job Bank.

The STC meets every third Tuesday at the Italian Cultural Centre.

A typical group function includes a speaker, followed by a networking period with snacks and beverages. Admission is \$10 for non-members, \$5 for members and \$3 for students who are unemployed. Membership dues are US\$95, plus a one-time processing fee of \$20.

Members are entitled to discounts at events, seminars and monthly meetings, and access to the online Job Bank.

A Canadian STC salary survey released in October indicates that technical communication is one of the few fields with no gender gap in the wages earned by men and women.

—June Campbell

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Column

Some hard facts about hard drives

When installing multiple operating systems on your machine, knowledge about how hard drives work is essential. This month, I'll summarize some things you should know about the most common hard-drive type, IDE (integrated drive electronics), before you install multiple operating systems. Remember, when in doubt, back up first, then experiment!

Hardware setup

Most computers today come with enhanced IDE (EIDE) controllers, which feature two channels (primary and secondary), support for hard drives with more than 1,024 cylinders, and support for ATAPI devices such as the LS-120. Older computer systems (generally based on the 386 or 486 CPUs) only have a single IDE channel (primary).

Each channel can handle up to two devices, denoted by master and slave, which means new computers can have up to four EIDE devices (I have two hard drives, an LS-120 SuperDisk, and a CD-ROM drive), while older ones can only have two IDE devices. An easy way to check which you have is to (a) read



Linfield's Line

Kevin Linfield

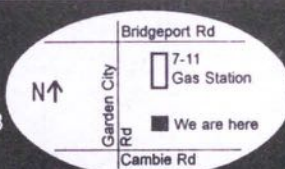
the manuals that came with your computer, (b) investigate your BIOS IDE settings, or (c) open your machine and take a careful look at the controller card (or your motherboard, if the controller is built in).

In most cases, you will want to make your hard drives the "master" devices (starting with the primary channel), and then attach other devices. Since each channel has its own "interrupt" (IRQ), you will not be able to access two devices on one channel simultaneously. For best performance, you should put the two devices you access the most on different channels. For example, if you have two hard drives and a CD-ROM, I recommend putting one hard drive as primary master and

continued on page 22

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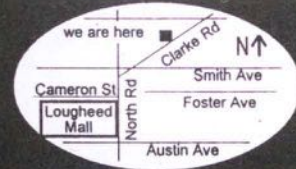
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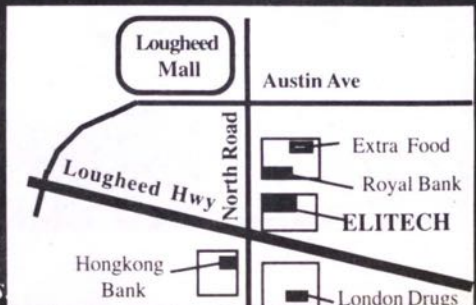
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Linfield's Line ...

continued from page 20

one as secondary master, with the CD-ROM as secondary slave.

All EIDE/IDE devices come with a set of jumpers that allow you to select whether the drive is mas-

ter, slave, or cable-select. I have never used the cable-select jumper, since making drives master/slave (or master/single device) is the best way to configure a system. Be warned that if you have a jumper wrong, your system will probably not boot, so make sure you read the manual and note the original jumper position!

BIOS setup

There is so much to discuss about your BIOS that it will have to happen in a separate article sometime in the future. For now, you should know that large hard drives (greater than 1,024 cylinders) almost always need to be set up in the BIOS (and formatted) using Logical Block

Addressing (LBA). LBA mode is simply a workaround for using drives with more than 1,024 cylinders. If your drive has fewer than 1,024 cylinders, use the NORMAL setting.

Utilities like On-Track Disk Manager were developed for IDE machines with an older BIOS. These types of utilities "faked" a type of LBA translation for DOS/Windows 95. If you formatted a large partition with your BIOS set to NORMAL, you will have to remove all data and partitioning information, then change your BIOS to LBA, and then repartition and reformat everything to have your system working properly. Don't try to change the BIOS from NORMAL to LBA (or vice versa) with data on your hard drive—you will most likely corrupt everything.

As an aside, you can use an EIDE hard drive with an older IDE interface card or BIOS if you don't use the FAT file system. Simply use hard drive type 47 in your BIOS and enter the correct number of heads, cylinders, sectors, etc. Then, using an operating system that supports it (such as OS/2, Linux, Windows NT), format the drive with a non-FAT file system. Your operating system must boot from within the first 1,024 cylinders (approximately 528 MB), so you may have to make at least two partitions—one for the operating system and one for everything else.

Partitioning

Every hard drive must be partitioned before it can be used. (It can consist of a single, large partition, but most people who use multiple operating systems keep them on multiple partitions.)

A partition is a means of dividing a hard drive into various units, usually with a drive letter. A single hard drive can have up to four partitions, either primary or extended, and an extended partition can be subdivided into multiple logical partitions.

Primary partitions on your first hard drive are assigned the drive letter C: (yes, you can have up to four C: partitions on a single hard drive), while a primary partition on a second hard drive is automatically assigned drive D: (or E: and F: if you have three or four hard drives). Drive letters A: and B: are reserved for floppy-type drives. Logical partitions are assigned the leftover drive letters, in order from primary master to secondary slave.

Non-hard drive devices are usually assigned drive letters by your operating system after all hard-drive partitions are in place, with the CD-ROM generally assigned the final drive letter. Partitioning is performed using FDISK, or utilities such as Partition Magic or Partition-It. Some boot programs (such as OS/2's Boot Manager) require a primary partition of their own.

Note that under DOS/Windows 95, FDISK cannot make a partition greater than 2 GB (a FAT limitation), so you will have to create multiple logical partitions to use the entire drive. The new VFAT32 file system from Windows 95 OSR2 or Windows 98 will allow larger partitions. And for OS/2 Warp, you will need to download a new EIDE device driver from IBM designed for hard drives greater than 4 GB. ♦

Next Month: Random software rants!

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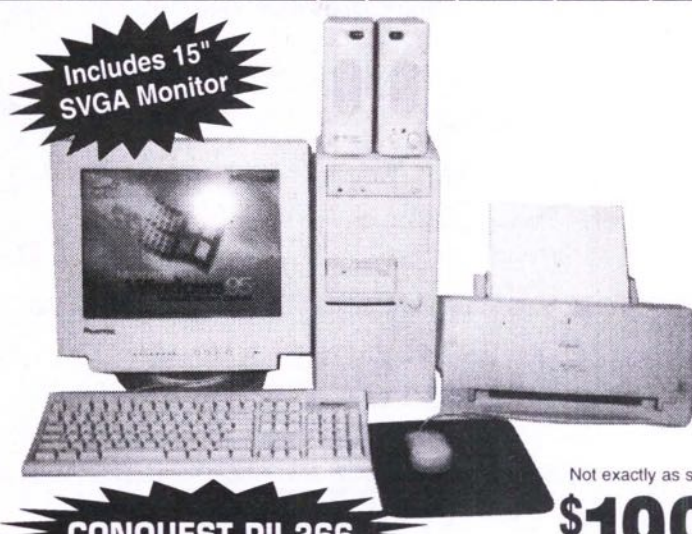
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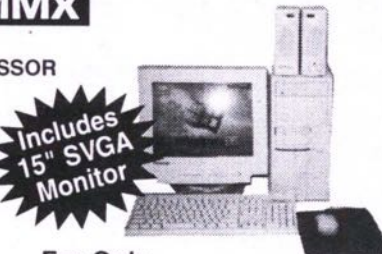
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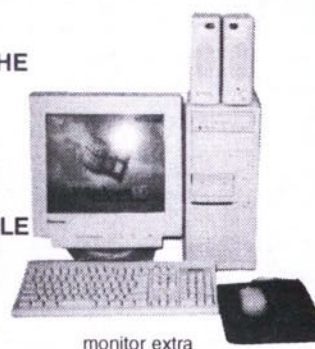


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High-end PCs...

continued from page 14

needs of a whole family, not just one person. The Pavilion, like the Inet Pro, can be hooked up to a television, thus eliminating the need for a home DVD player. The most interesting thing about this system is HP's unique online registration system: the first time you boot up the PC, it asks you to register it electronically. If you do, you get a free copy of SimCity 2000—certainly nothing to sneer at. If you're looking for power, you'll probably want to look elsewhere, but if you're looking for a family PC that combines ease-of-use and reliability, this is the system for you. Hewlett-Packard Canada, Tel: 800-387-3867

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Speed: 95%
Bang for your buck: 48%
If there were an award for cool tower cases, Jaba would win it, hands down. Unlike other designer cases, which try to look high-tech, this case just looks mean. Cases from vendors like HP seem to be inspired by the sleekness of fighter jets, while Jaba's case conjures up the brutal, utilitarian power of a battle tank. The system inside is as powerful and robust as the case would have you believe, clocking in at a respectable 95 percent. The Yamaha sound card is an interesting touch, and is built right into the motherboard to help free up expansion slots. Jaba Systems Inc., Tel: 905-477-6891

LCF Tech. Inet Pro Elite-333

CPU: Pentium II 333 MHz
RAM: 128 MB SDRAM
Video: Diamond Viper AGP 8 MB
Sound: Sound Blaster AWE 64
HD: Quantum 4.3 GB UDMA
CD: Creative DVD
Modem: USR 56K
Extras: None

Warranty: 3 years parts/6 years labour
Price: \$3,370
Speed: 91%
Bang for your buck: 55%

This is the kind of system you want at home, in your living room. Not only is it more than powerful enough to handle today's top game titles (Quake2 plays like a dream), but it also contains both a DVD-ROM and a Diamond Viper card. This combination lets you display DVD movies directly on your TV set. If you're thinking of buying a DVD player for your home theatre, you may want to consider buying a setup like this instead. After all, it can do a lot more than just play DVDs. LCF Advanced Technology Ltd., Tel: 604-303-9628

Mynix Summit-97

CPU: Pentium II 333 MHz
RAM: 96 MB SDRAM
Video: Matrox Productiva G100 8 MB
Sound: Sound Blaster Vibra 16 onboard
HD: Seagate 6.4 GB UDMA
CD: BTC 24x

Modem: USR 56K
Extras: BTC CD-RW
Warranty: 3 years parts/3 years labour
Price: \$4,152
Speed: 98%
Bang for your buck: 47%
This system had the potential to win this

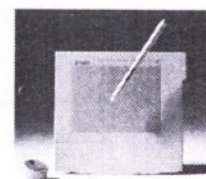
month's roundup, but its performance fell just short. Had its designers increased the amount of RAM to the high-end standard of 128 MB, this PC probably could have outperformed the STD machine. The slight sac-

continued on page 25

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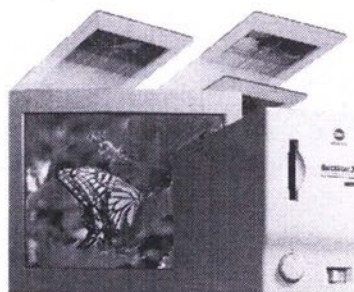
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Column

A tale of two operating systems



Software

Alan Zisman

"It was the best of times; it was the worst of times." As in Charles Dickens *Tale of Two Cities*, change is in the air. For some computer users, it's exciting, and for others, a time of foreboding.

Okay. Maybe I exaggerate. It's not like the French Revolution. Heads will not roll. Still, when the Windows 3.1 upgrade was called "Windows 95," the name suggested annual model changes, like in the auto industry. But there was no Windows 96. No Windows 97. Finally, though, we've been promised a Windows 98, perhaps as early as May 1st. As with the coming of spring, signs are everywhere.

Production of Windows 98 books is under way at publishers aiming for May publication dates. Microsoft Press has already released a Windows 98 Resource Kit—Beta Version (US\$55.99), complete with a CD-ROM of the beta software, for those who just have to have a copy before Microsoft deems it ready for commercial release.

Nevertheless, all the signs indicate Windows 98 will not be subject to the major hype that accompanied the Aug. 24, 1995 release of its predecessor. No Rolling Stones jingle, no daredevils scaling Toronto's CN Tower. No midnight lineups outside software stores. And much less of a technological jump from its predecessor than Windows 95 took from Win 3.11.

Windows 98 is more modest and to a large extent simply amalgamates in one package features that are already available:

- The Fat32 file system (which allows use of large hard drives) has been part of Windows 95 since October 1996, though not officially included with the retail upgrade package. It finally has a utility to convert existing Fat16 drives without destroying the data.
- Active Desktop and Internet Explorer 4.0, available free from the Internet
- DirectX 5.0, which is, again, freely downloadable and included with many newer games.

In addition, there's support for the hardware devices that have emerged since 1995—DVD, universal serial bus (USB), accelerated graphics port (AGP), and Firewire—and better power management for notebook users.

It does have a few new features: multiple monitor support (yes, like the Mac OS since 1988), and support for TV (based on features already available on ATI's All-in-Wonder-series video cards).

Should you hurry to get it? Not necessarily. Active Desktop, IE 4.0, and DirectX 5.0 are

available for free if you want/need them (personally, I don't care for the Active Desktop interface features, though I know others who like them). If you're purchasing a new computer to take advantage of the new-generation hardware, you'll most likely be getting Windows 98 as part of the package anyway.

Windows 98 looks like the end of the Windows line of operating systems, making it the last step in an evolution that started with DOS. Microsoft is planning to build future models based on the NT core, with separate lines for big business and small business/consumer users. Prior to that development is the next NT release, NT 5.0, due late this year or early next.

Meanwhile, there's action over on the Mac side of the force, as well. Last summer brought us the release of OS 8.0. Though it became a bestseller, in many ways, it seemed to me like a catch-up-to-Windows 95 release.

While it's easy to focus on what Microsoft's products have borrowed from the Mac, OS 8.0 supplied Mac users with pop-up context menus and sticky drop-down menus—both long-time Windows features. Programs icons minimized to little tabs lined up on the bottom of the screen look suspiciously like the Windows 95 Taskbar. And, while Windows has offered a 3D "chiseled steel" look, the always classier and more expensive Mac now sports a 3D "platinum" appearance.

Winter ushered in Mac's OS 8.1...some bugfixes, and a new file system: HFS+. With less cluster waste and more support for bigger drives, it meets exactly the same needs as Microsoft's Fat32. And it comes with the same catches as the Windows 95 version of Fat32: an installation process that destroys your existing data, resulting in a hard drive that can't be read if you boot to an earlier operating system version. (And like Windows 95 users, who could purchase a third-party utility—Partition Magic—to safely upgrade file systems, Mac users can acquire Alsoft PlusMaker to do Apple one better.) Unlike Microsoft, which discouraged upgrades from Windows 95 to Windows 98, Apple has made the upgrade from OS 8.0 to OS 8.1 freely available via the Net, or by purchasing a low-cost CD-ROM.

Just as Microsoft is offering NT as the industrial-strength alternative, Apple is promising Rhapsody, which will combine the Mac look and feel with the power and performance of Steve Jobs' NeXT. But like NT, Rhapsody isn't being touted for the home/small business users. Apple is also promising two parallel operating system families.

Some of us feel like we just have to have the latest—and hope it will automatically be the greatest. Most of us, however, should take our time, resist temptation and hype, and upgrade only when there's something offering clear benefits. ♦

Alan Zisman can be reached by email at azisman@rogers.wave.ca.

Surviving the tech roller coaster

continued from page 16

is dominated by the big players and the growth potential from the networkers is real and should continue well into the new millennium.

Investors that are looking for an alternative for the PC makers might want to consider the networking sector.

I would stick with the bigger names as I expect the majority of the growth to come from the corporate sector as they are looking for companies with proven track records. Reallocating money to an improving sector can create great value buys as out of favour companies turn the corner.

Predicting future earnings

If earnings and earnings predictability are the most important factors affecting stock prices, how do you evaluate companies that don't have any earnings? Companies that have not reached profitability, trade on projected future earnings potential. It is extremely difficult to forecast future earnings potential!

The easiest way to reduce volatility in a technology portfolio is to limit the number of companies with negative or no earnings. For example, because of the huge potential of the Internet some investors are willing to pay

premiums for newer companies based on the potential growth of this fledgling industry.

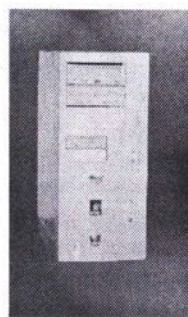
Unfortunately, the Internet sector does not have a long earnings track record. Therefore this sector is destined over the coming years to have much higher volatility than more established technology sectors. The investment returns in emerging industries and companies can be exceptional, as long as you are aware that you are assuming significant additional risk. ♦

Thomas Klein is an investment executive with ScotiaMcLeod and can be reached at tom_klein@scotia-mcleod.com, or 604-737-3503.

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High-end PCs ...

continued from page 23

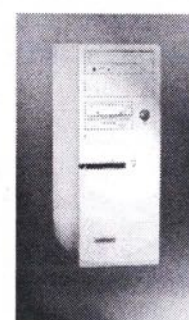


...rifice in price is more than made up for by the great bonuses this system comes with, however. The first is the video card, the new Matrox Productiva G100 AGP—which is a real sizzler and partially explains this system's outstanding performance. Also worth

noting are the two CD-ROM drives contained in this system: a BTC 24x for high-speed CD applications, and a BTC CD-RW for the slower process of CD and CD-RW burning. Including both these drives not only provides the option of using the 24x drive when speed is important, it makes CD duplication easy. Including a CD-R would have been more than enough to turn my head, but a CD-RW that lets you record on CDs and re-writable CDs makes this the most versatile system in the roundup. Mynix Technologies, Tel: 514-335-2456

STD CompuPartner Ultra333D ATX

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Video: Diamond AGP 8 MB
Sound: Sound Blaster AWE 64



HD: Quantum 6.4 GB
UDMA
CD: Panasonic 32x
Modem: USR 56K
Extras: None
Warranty: 3 years parts/3 years labour
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Performance: 100%
Bang for your buck: 75%
When preparing this

round up, I assumed the winning computer would cost more than anyone in their right mind would be willing to pay. Boy, was I wrong. Not only is this system a speed demon, it's almost one of the cheapest in the roundup (only the Elco costs less). A superb bargain by any standard, this machine shows just how useful shopping around can be. This machine is so inexpensive that anyone seriously in the market for a high-end system will have enough money left over to buy some cool add-on peripherals. High power, low price. You can't ask for more than that. (This system comes 100 percent virus-free, despite the company name!) STD Systems Inc., Tel: 800-463-6783 ♦

As CPI's dedicated hardware analyst, Owen Ferguson will review monthly hardware round-ups. He is a big fan of David Bowie and can be reached at Owen_Ferguson@tcpon.ca

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digital workforce

A career in computers:

What Canadian educators say industry needs now

BY RENÉE WILSON

While it is essential to have sharp technical knowledge for a successful career in computers, it is equally valuable to be people-smart.

It seems that the key in today's digital workforce is to be able to read how people will best interact with computers. Today's techie will ask questions like: Does this interface make sense? Is this program easy to understand? What does this employee need to best do the job?

This kind of average-user's-eye-view is exactly what software manufacturers require in order to stay in touch with what consumers need.

Companies also need people who can explain complicated computer applications in plain and simple language to corporate employees and executives—*The Wealthy Barber* of computer lingo, if you will. This could mean the resident manager of informa-

tion systems (MIS), the one who scrambles around the office all day putting out (or starting) fires and salvaging (or prolonging) daily computer tragedies.

Or, like Adam Wilson, CTG field services manager at IBM, this could mean working for a computer company's toll-free technical-support line. "An individual who displays a good balance between technical and interpersonal skills will have the advantage in today's IT industry," Wilson says.

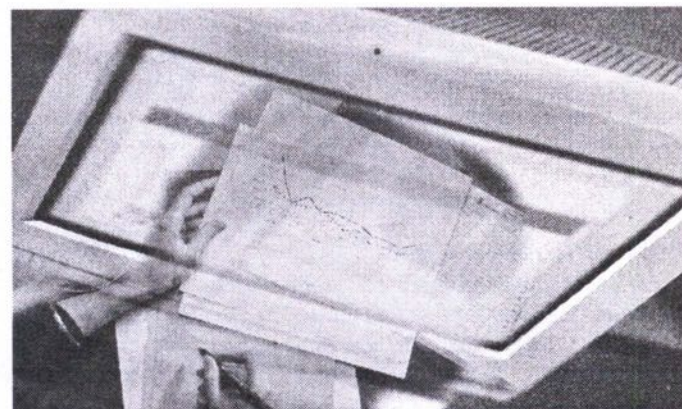
We surveyed computer-science professors across Canada and picked their brains about how they see computer careers shaping up in the near future. Read on.

Burnaby, B.C.

"It seems clear that before very long we will be working, learning, living and playing in ubiquitously networked environments, where we communicate with text, graphics, sound, and video in very flexible ways. Integration of

these systems will present formidable design problems—there will be software-engineering as well as hardware-system challenges. Priority will be given to the design of the interfaces through which users interact with these ubiquitous integrated environments.

"Right now the industry urgently needs software engineers—people who know how to design, implement, and evaluate large software systems; human-computer interaction specialists who can design and evaluate user interfaces; and new media arts and design specialists, who combine a background in the technical aspects of multimedia with a knowledge of arts and design.



"I expect the jobs to be in the integration of distributed multimedia computer systems in high-speed networked environments; design of interactive multimedia systems for business, education, entertainment, design; and evaluation of interfaces for human-computer interaction, software engineering, and digital communications."

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—Tom Calvert, vice-president, research and external affairs, School of Computing Science, Simon Fraser University

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"The ever-growing use of computers throughout society is increasing the pressure on technologists to produce systems that are easy to learn, natural, and productive and safe for individuals to use. To achieve these goals, development teams must include specialists in human-computer interaction and user-interface design.

"There are, therefore, numerous opportunities for productive careers in the computer industry for individuals whose original training is in any of a number of non-technical fields [i.e., psychology, sociology, anthropology, graphic design, or industrial design], especially if they can marry this background with real-world experience, software, and its application and use."

—Ronald Baecker, professor of computer science and director, Knowledge Media Design Institute, School of Computer Science, University of Toronto

"The multimedia industry is growing and is full of exciting possibilities. No longer are expensive applications like UNIX needed. We are seeing more and more affordable NT tools and desktop publishing programs available [like 3D Studio Max], thus the market is opening up in careers in industrial/product design.

"Or, for instance, in a recent *Condo Living* section of *The Toronto Star*, they featured virtual-reality images where clients could check out a 3D version of the living space. This is another spin-off from the wave of affordable technology. The industry will always be looking for people with true design skills who understand the marketing aspect of the Web."

—Carolyn Booth, coordinator, Digital Imaging Training Centre, Humber College of Applied Arts and Technology

Ottawa, Ontario

"The best advice I can give to students interested in a career in the computer-technology field is to concentrate in the area of computer communications. This is one of the most promising areas in engineering. In particular, the industry is now looking for, and will continue to look for, experts in software-protocol engineering. These will be the people responsible for writing the literature that is distributed with computer-based applications, including digital-TV system manuals, distance-learning text, and applications."

—Luis Orozco-Barbosa, School of Information Technology and Engineering, University of Ottawa

Montreal, Quebec

"The aspect of computing that will dominate, say, the next five years—which is about as far ahead as the universities can prepare graduates with particulars—is communications, and specifically, the Internet. All the evidence indicates that industry lacks an adequate supply of technically able personnel.

The universities are being deprived of the resources to graduate the numbers needed.

"The universities are important, because, although nobody can prepare students with particular skills for more than a few years

after graduation, we can give them most of the principles with which they will be able to extend and retrain themselves. The jobs will be in all areas of computing. McGill has an internship year in the Faculty of Engineering

and in the Faculty of Science, and 80 percent of the placements are for students in computer science and computer engineering."

—Tim Merrett, professor, School of Computer Science, McGill University. ♦

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BY ALAN THWAITS

Of all the buzzwords to emerge from the computing world of the 1990s, the most exciting is probably "convergence."

There are a number of reasons this is so. First of all, convergence appeals to our very human need to have things "come together"—too often, the nature of technology is to be scattered, and it does the heart (and the brain) good to see things in focus once in a while. Second, convergence resonates because it touches differ-



ent parts of our lives, and pulls them together in ways that perhaps we hadn't thought of before.

But the real excitement about convergence is its practicality. Practical convergence creates real-world solutions, which make good business sense, and, even better, help us get through the hassles of everyday life.

An Ottawa-based start-up company called Exovision Technologies Inc. recently developed an appealing example of convergence called VRCom. It's an amalgam of Internet telephony and virtual-reality tools, all done up in a package that is functional even with slower-than-light-speed modems. The result, according to Exovision, is "a client-based 3D communications tool that enables individuals to naturally communicate by motion and voice."

Translated out of marketing-speak, that means you and a colleague, friend, or significant other can use VRCom in a meeting that includes voice, visuals and a virtual environment in which you can share files and work together in real time, despite being separated by physical distance.

As the Net spins

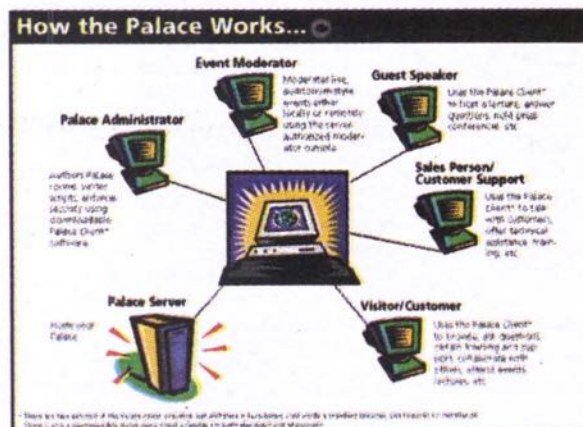
"We see Net communication taking a different turn, and we want to initiate the change," says Ross Bellinger, project leader for Exovision's VR products. "Visual interaction is clearly important to people, and VR fills that need. With customizable 3D environments, the possibilities are almost limitless."

and popular, but they're at the high end for many users. On the other hand, Internet telephony gives the user voice, but not the sense of presence that visuals give. Videoconferencing offers voice and visuals, but at an extremely high cost in equipment needs, as well as bandwidth.

Here's how VRCom works. First, you have a choice of environments in which to work, so the setting will match your discussion. Want to put on the dog a bit? Choose the Boardroom Environment. Need something a little less formal, but still businesslike? Then the Office Environment is for you. VRCom's Cafe Environment is perfect for a cozy get-together, while the Teleport Environment will suit you when the conversation gets spacey.

"The additional environments provide extra furnishings to allow users to customize their own environments. These additions aren't necessary to run the program, but may provide a higher level of entertainment," Bellinger says.

Each of the environment packages comes in a relatively small size, (between 1,702 and 4,039KB, zipped), thus reflecting the functionality of the VRCom startup client, which



Right now, VRCom is out in beta (and available for free at Exovision's Web site). It allows two people to communicate in real-time voice over the Internet or an intranet. It offers all kinds of goodies: 3D environments, 3D avatars (images representing users in a multi-user, virtual-reality space), the ability to share documents and transfer files, audio controls, a personal address book, and half- and full-duplex audio. By June, Exovision plans to expand the number of users VRCom will accept, so that multiple-user discussions and meetings can take place.

"With multiple-user capability, we believe there are a number of markets VRCom will appeal to," says Karin Johnson, sales manager for Exovision. "Besides the gaming fans and the educational market, we see very real opportunities for SOHO users. In all cases, the ability to communicate by voice and visual, as well as the ability to share files and documents, is really important."

The idea of communicating over the Net isn't new, but VRCom appears to offer a tool that's both useful and cool.

Con text

Text-based chat utilities have been around for a while, but they're clumsy because they depend on text alone. Although VR-based environments like The Palace offer intriguing visuals, it is 2D rather than 3D, and messaging is still text-based. Lotus Notes-based collaborative communication tools are effective

itself is only 4,132KB (zipped).

Fire up the client, then enter the 3D office/boardroom/cafe environment by clicking on your mouse. In front of you will be the furnishings appropriate to the environment—backgrounds, chairs, desks, and so on—as well as the avatar of the colleague/boss/ friend you're meeting with. Then you can talk in real time and at normal speeds, show each other documents you've been working on, and transfer files for further perusal.

There will be many Elvises, no doubt

Since you can present whichever avatar you choose, you can always look your best (even if you work in your PJs!). And, because VRCom's vectoring capabilities can transfer small changes quickly, you can send—and see—changes in facial expressions to match your words. Gives "networking" a whole new meaning, doesn't it?

"We're providing people with the pieces to create their own environments," says Bellinger. He adds that the next version of VRCom will be a commercial release that will remain compatible with the startup package, which will continue to be available for free. "We want to put this product in the hands of about a million people, and see what develops," Bellinger says.

Putting together the Net, the telephone, virtual reality, and a sense of presence—now that's convergence! ♦

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Recruiting moves to the Web

Employers drawn by online speed, automation

BY ADRIANA BARTON

Employers advertising job openings used to face huge piles of resumes, clogged fax machines, and hours of wading through applications.

No more. The Internet has provided companies, such as North Vancouver's Pivotal Software, with an efficient means of hiring

the talent they need—fast. "Our efforts in posting in the last three months have far outweighed our efforts 12 months ago," says Jan Laishley, Pivotal's human resources coordinator.

The company typically spends \$350 per month to post 20 job openings over the Career Exchange (<http://www.careerexchange.com>), a Burnaby-based job-matching

service. The cost is substantially higher than the average newspaper ad, but the service is worth it to Pivotal, which has 135 staff members and is growing rapidly, according to Laishley. She says she is satisfied with the quality of the applications she is receiving, and has already filled five positions by posting job opportunities online.

"I think it's the wave of the future," says Julie Stitt, a recruitment consultant with UBC Career Services, referring to online recruiting. "More and more companies are writing 'Please check out our Web site to apply online,'" says Stitt, citing the Public Service Commission of Canada as an example. Stitt says online recruiting is generally part of a company's overall strategy, and not a replacement for traditional recruitment methods. But she adds that some employers only accept applications over their Web site.

What makes online recruiting so attractive to employers? It can save companies money, and searchable databases help weed out applicants who don't meet the required skills exactly, Stitt says. Best of all, employers who use the Internet effectively cut an average of 12 days from the recruitment cycle, according to a recent study conducted by Ottawa-based iLogos Internet Intelligence Corp.

The Net is an excellent tool for recruiting in fields with a shortage of qualified applicants. "People can be all across the country or all across the world, and be accessing the same database, 24 hours a day," Stitt says.

Although some companies post jobs on

online job banks, newsgroups and industry Web sites, Stitt says the trend is for employers to post openings on the corporate Web site, where they can determine exactly how they want people to apply.

Database software such as Maximizer allows companies to customize their own electronic application forms, which are filled out online and routed directly into the company's database. "The databases are a way to manage the information from the employer's end," Stitt says, adding that electronic files are much more easily accessible than paper resumes stuffed into a master filing cabinet.

Small companies with fewer resources may rely on services such as the Electronic Labour Exchange (<http://www.ele-spe.org>), an online job matching service provided by Human Resources and Development Canada. Based on Canada's National Occupations Classification system (NOC), the site reduces a group of 25,000 job titles to 500 checklists that correspond with the skills and educational criteria for each occupation.

The system generates an online form for a given job title. Employers use the checklist to select the skills and education they require; job seekers use the same checklist to describe their skills in that field.

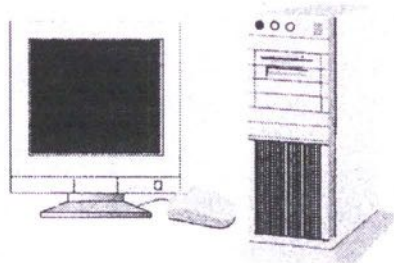
Since matches are based on check marks rather than on key words searches, the service ensures employers and job applicants

continued on page 32

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Finding the right words

Standard resumes don't cut it for a cyber job search, according to Julie Stitt, a recruitment consultant with UBC Career Services. Database technology usually relies on key word searches and doesn't recognize the traditional action verbs used to describe qualifications and educational backgrounds.

"I tell job-hunters, 'Get online and find out how your skills are described by human resources professionals,'" says Stitt. "The person needs to constantly keep in mind, 'How are people going to search this database?'"

For example, a traditional resume for a journalist might read, "increased the *Vancouver Sun's* environmental coverage by 50 percent," while an e-resume would describe the same experience using key words such as "Hazardous Waste Reports" and "Environment."

Stitt says she refers job hunters to Rebecca Smith's eResumes & Resources Web site (<http://www.eresumes.com>), which recommends the use of industry-related terms, jargon and acronyms as key words. The site advises people to make sure key words and phrases are all on the same line, so databases can recognize them as relevant skills.

Equally important is learning to format e-resumes, and make paper resumes scanner-friendly so they can be saved directly into a database, says Stitt.

People preparing e-resumes and scanner-friendly documents should avoid tabs, use simple text (i.e. no bold or italics), avoid graphics and shading, and use sans serif fonts such as Helvetica and Arial, Smith's Web site advises.

But what about the individual look graphics can provide? "People who are interested in promoting their uniqueness may use this medium less," Stitt says. As for posting e-resumes, Stitt warns against sending unsolicited resumes by email. "From a job search perspective, we know that that's not very effective," she says.

—Adriana Barton

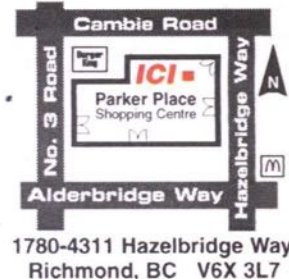


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HP AdvanceStack 8 Port Hub \$208
3Com SuperStack II 12/24 \$360/560

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digital workforce

Recruiting moves to the Web

continued from page 30

describe skills using the same language—one that the database can easily understand.

Stitt says online recruiting has extended beyond the high-tech field to include firms such as the Sales and Merchandising Group (S&MG), a Canadian company that hires gregarious people to participate in marketing

campaigns, such as delivering samples of Kokanee beer by ski to snowboarders on a mountain.

"You wouldn't think that this is the kind of company that would emphasize applying

online," Stitt says. Recruiters appearing recently on the UBC campus said they preferred online applications, according to Stitt.

According to Jeff Rogers, seasonal recruitment manager for S&MG, 68 percent of the applications for summer '98 were filed online. He says the company still accepts the odd paper resume. But students who convince friends to apply online were eligible for incentives, such as a portable telephone, while student whose referrals sent resumes by mail were not eligible.

Other service-oriented recruiters use the Internet to enhance the recruiting process, but don't rely heavily on database technology. Resumes emailed to the Rockwell Placement Agencies Ltd.'s Web site are read by company staff rather than sent directly to a database, according to Tara Kessler, client relations. "Our clients give a lot of specific information about what they are looking for," says Kessler. "We don't want to be so technically oriented that we can't meet the [applicants] ourselves."

Online recruiting may not be suitable for all work sectors, but UBC's Stitt says the Internet has changed her job considerably.

She describes a recent experience as a dramatic example of a growing trend. "Our receptionist was concerned because there was an incredible drop in the number of applications for a certain company, even though we had tons of applications the previous year," Stitt said she wondered if Career Services wasn't doing enough marketing, but when she looked at the job description she realized what had happened. The ad said, "Please apply online." ♦

Online resources

Rebecca Smith's eResumes & Resources

<http://www.eresumes.com>

This comprehensive site includes examples of keywords for various occupations, tips on posting and formatting e-resumes and a gallery of e-resumes.

The Electronic Labour Exchange

<http://www.el-spe.org>

An online job-matching service provided by Human Resources and Development Canada, this site generates data fields corresponding to the skills and educational requirements of a given occupation.

The HiTechCareer Centre

<http://www.hitechcareer.com>

Matches IT professionals with employers using key word searches and frequently updated databases.

Industry Canada Online

<http://www.strategis.ic.gc.ca>

A good resource for career exploration, this site provides information on Canadian businesses by sector and the latest data from Statistics Canada.

Deja News

<http://www.dejanews.com>

An excellent starting point for developing contacts, with links to more than 50,000 newsgroups on every topic imaginable.

—Adriana Barton

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TV gets caught in the Web

BY CHRISTOPHER GULY

Turns out your television set may not be the long-derided boob tube. After all, 97 percent of Canadians own one, not to mention the 96 percent of us with telephone service. Such high use of those technologies has made some communication visionaries sit up and take notice of the possibilities of combining the two.

Certainly, as a pair, they could bring up the numbers of Canadian Internet users, which is expected to hit about two million by the middle of this year. There could be more, if it wasn't for the necessity of owning a home computer to access the Net.

Forget the PC and think TV, and you get what some enterprising folks have come up with in what they hope will be the winning solution.

In late November, ViewCall Canada Inc. launched BeyondTV—Net-connected television, "Canada's first personalized Internet television service," says the Winnipeg-based subsidiary of Manitoba Telecom Services Advanced, the province's former Crown corporation, Manitoba Telephone Services.

Priced at \$29.95 per month, BeyondTV (<http://www.beyondtv.net>) includes Net access, as well as five personal accounts and individual email addresses. If you already have Internet

access, the cost drops to \$9.99 per month. Service is offered in both official languages.

BeyondTV's programming includes CBC Newsworld, The Weather Network, sports, investment information, children's entertainment, content for seniors, games, and a weekly adventure series, WhirlGirl, billed as a post-Generation X superhero.

On top

ViewCall Canada has an alliance with the Markham, Ont.-based Batra Group of Companies, to provide the "WebSurfer" set-top box for access to BeyondTV. Priced at around \$420 and available at major department and retail electronics stores across the country, WebSurfer comes with a wireless keyboard, infrared remote control, and a parallel printer port.

While ViewCall won't reveal how many people have signed up for BeyondTV, the company has become first off the mark to offer Internet TV to Canadians.

Last year, Microsoft Corp. bought Palo Alto, Calif.-based WebTV Networks Inc. for about US\$425 million in stock and cash. Although WebTV is an online service, it has licensed the design of set-top boxes to industry giants Philips Consumer Electronics and Sony Electronics. Sony, for instance has

designed its WebTV Internet Terminal to include a "port" connector, which can be used with printers, and a built-in "smart-card" slot for online TV shopping and banking.

To further corner the market, WebTV has been tinkering with innovation. For example, set-top box owners will be able to watch an Internet-originated picture alongside a broadcast TV image—all on the same screen. Java will also be added to the technology, thanks to an agreement signed with Sun Microsystems Inc.'s JavaSoft unit.

Restricted

As a result of U.S. restrictions on the export of encryption technology—a feature of WebTV—Canadians haven't been able to benefit from Bill Gates's ramp to the information highway. However, that's expected to change by April, when WebTV finally arrives in Canada.

But as the Redmond, Wash.-based giant creeps over the 49th parallel, some industry watchers wonder whether there's enough interest in Internet TV to make it a profitable venture for Gates and his smaller competitors.

In a 1997 study conducted by New York-based Forrester Research, only about 100,000 people were subscribing to an Internet television service (WebTV claims it has 250,000 subscribers). According to the Forrester report,

it will the year 2000 before the sector attracts a million customers because the Internet, as far as content goes, is still Dullsville.

Why? Because consumers weaned on television expect TV-like entertainment, says Forrester—a goal that remains in its infancy for Net-TV content developers.

The one favour Internet television may offer consumers—in addition to bringing the Web into their family rooms—is saving them a few extra dollars. The set-top boxes cost only a few hundred dollars, as opposed to the thousands you can drop on a computer system.

Prying eyes?

"But do you really want to surf the Web or perhaps do your banking in full view of other people in the living room?" asks Steven Bartkiw, a senior executive with America Online, an online service that offers some television-like content.

It appears that it's the more traditional functions of the Internet that people want to see on their TV sets, however. A study conducted last year by the U.S. online publication Cyber Dialogue found that 51 percent of Internet users would buy an Internet-TV device; 85 percent would expect it to offer ease of access to the Web and email capability. ♦

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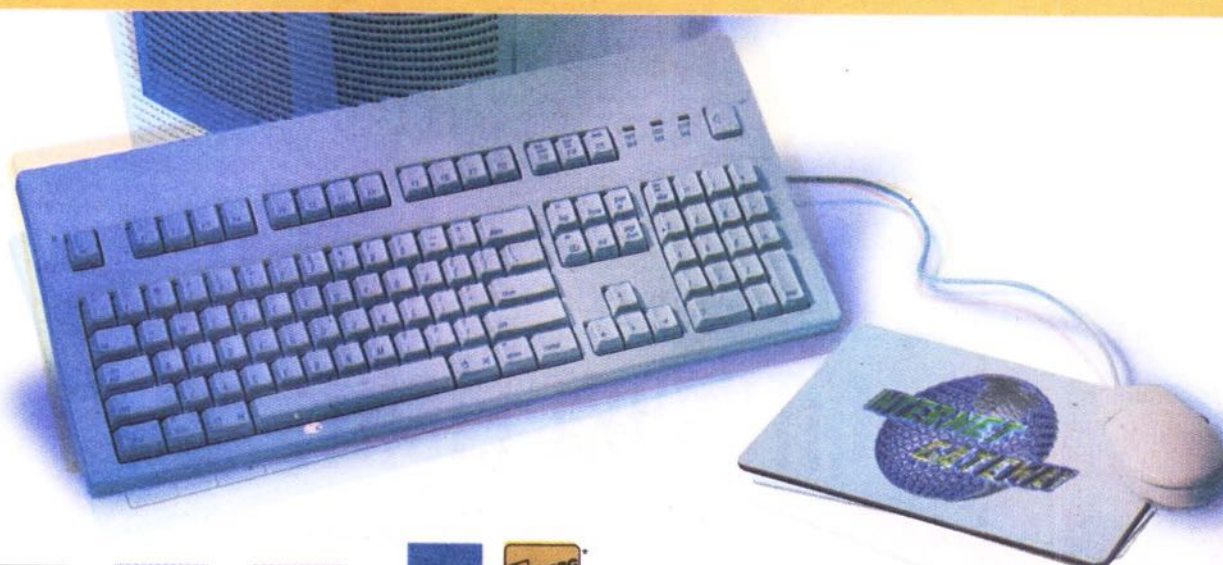
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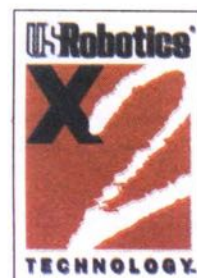
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Spreadsheet to database to the Web

Making the most of FileMaker Pro

BY DAVID ROSEN

Managing data with a database? It sounds like the obvious thing to do, but many people keep track of important information using only spreadsheets. Spreadsheets, after all, can figure out equations, perform complex "what-if" analysis, and generally crunch numbers like there's no tomorrow. The problem is, that is really all they do. If you want more, spreadsheets are seriously limited.

Sure, you can construct an initial budget forecast using a spreadsheet, but what about using it in the real world? What happens when your invoices go unpaid and you need to track down your debtors? Or maybe you are trying to figure out how successful your direct-mail campaign has been in generating sales. Your trusty spreadsheet won't help you—but a database can.

I've used many different databases and contact managers in my day, but for my money, few compare to FileMaker Pro's ease of use and flexibility. Sure, there are many other databases available—many with greater power and back-office connectivity—but all things considered, I use and often recommend FileMaker Pro.

What can you do with a FileMaker Pro database that you can't do with a spreadsheet? Well, for starters you can design multiple layouts to view, enter and print your information by simply dragging and dropping the chosen fields. You can also create compelling reports and forms with the program's built-in graphic tools. FileMaker Pro can even add impact to your files with QuickTime movies or product photos stored in popular formats such as JPEG and GIF.

For years, many of my clients continued to use old spreadsheets simply because it was too much of a hassle to switch to a database. Not anymore. The latest version of FileMaker Pro lets you drag and drop an Excel spreadsheet file directly onto the FileMaker Pro icon. Spreadsheet information is quickly and automatically translated into indexed database fields. There's no formatting or reformatting necessary, and you don't have to convert information, re-enter figures, rebuild the database, or do anything else. Use the mapping feature to take as much (or as little) spreadsheet information as you want, and place it into any database. Simply specify which Excel worksheets you want, which fields in the worksheet you want, and which FileMaker Pro fields you want the data to map into. The software does the rest.

Drag and drop

Let's say you've got your sales orders stored in an Excel spreadsheet. Drag and drop the entire spreadsheet file onto the FileMaker Pro icon, and the database will translate each row of spreadsheet information—contact names, orders, invoice numbers, payments,

and everything else—into a record in the new database. You can also selectively move spreadsheet information to FileMaker Pro. Create a new FileMaker Pro file and define your fields, then import the fields you need using the Import Records function and customize it with the Import Field Mapping dialogue box.

Another benefit of databases over spreadsheets is the elimination of duplicate contact information, such as repeat customers, for example. In a relational database, one file can contain customer contact information and another can hold the one-time event information (such as individual sales orders). With a database, you don't have the tedious chore of retyping information every time your existing customer places a new order—as you would if you had used a spreadsheet.

On the other hand, let's say you've used a spreadsheet to create scenarios comparing the revenue you'll make depending on the price you charge for your product. Once you've settled on your best price, you need only one of the columns. Import that particular column into your database and add fields for all the different information relating to each item. For example, you might want to relate distribution costs with contact information for your distributors, dealers, retail outlets, or warehouse, along with constantly updated reports on sales from each. You'll also want to relate the tax payable to specific information for your federal and provincial tax contacts, as well as detailed information about what has (and has not) been remitted.

Getting on the Web

Another advantage of using FileMaker Pro is its new Web connectivity. You may have wanted to put some company information on the Web for a long time, but didn't want to pay someone, or take the time and trouble yourself, to construct and constantly update the Web site. FileMaker Pro's Instant Web Publishing allows you to post your databases directly to the Web without having to reformat, modify, or otherwise bother with complex programming. Simply enable Instant Web Publishing and Web Companion Sharing, and then choose the layouts you want your viewers to see, search, and use. Add password protection so that only authorized users can find, edit, delete, search, and update your records.

That's all you need to do. Plus you can add, change, or delete information, fields or whole databases on the fly simply by using FileMaker Pro commands. You can also add bells and whistles to your Web database, if you want to get fancy. The software lets you create specialized format files containing hypertext markup language (HTML) and Claris dynamic markup language (CDML) tags.

Beyond traditional database functionality

Small businesses can venture into the world of electronic commerce using FileMaker Pro v.4.0's Web publishing features. Check out Blue World's cool Web site (<http://www.blueworld.com/fmpro/carts>) for examples of how FileMaker Pro has been used to jazz up otherwise humdrum information. There's even a special Web site for FileMaker Pro owners (<http://www.filemaker.com>) with resources and support, plus predesigned forms and templates that provide solutions for everyday business use. Current solutions include Contact Tracker, Estimate & Invoice Tracker, Product Inventory and Sale Tracker, Expense Report Tracker, and even a Web Shopping Cart.

Now, I'm not suggesting you toss out your spreadsheet—or your full-blown accounting

sys-

tem, for that matter.

Spreadsheets and accounting packages have important places in any business. My real-world experience, however, has led me to conclude that many business applications are better off on a flexible database than a rigid spreadsheet or accounting package. ♦



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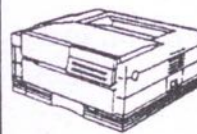
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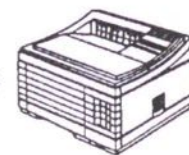
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Worried about hackers stealing passwords? Dr. Solomon's Software has unveiled what it claims is the first package that can detect and disinfect more than 500 malicious "Trojan Horse" programs, which steal passwords, screen names, and other personal information from online users. The Trojan-detection capabilities are included in the latest edition of FindVirus, the core scanner technology found across the entire line of Dr. Solomon's anti-virus software. An evaluation copy can be downloaded from Dr. Solomon's Web site.

www.drsolomon.com

Disk editing deluxe

If you are looking for native Windows 95 disk editing and viewing software, check out NetUSA Inc.'s DiskGate. It allows you to view and edit a large number of storage media, including IDE, SCSI, parallel-port, and CD-ROM drives. You can also edit files, logical or physical sectors, boot tables, partition tables, and directories. Download a limited demonstration version from NetUSA's site. Suggested retail is US\$99.95. A Windows NT

version is in the works.

www.netusa.com/pacmicro/whatnew.htm

Tel: 650-948-6200

Use that PrintScreen key

For US\$34.95, Windows users can print anything they see on their computer screens with a single keystroke. The Software Labs' ScreenPrint Gold v2.5 has been updated and now includes extra features such as SuperScroll, which allows a user to automatically capture and print entire Web pages, and ImageSweep, which instantly captures every image (visible or not) from any Web page.

www.softwarelabs.com

Tel: 206-869-6802

IBM to make K6 CPUs

Advanced Micro Devices (AMD) Inc. has announced IBM will help manufacture K6 microprocessors. The two-year deal will help AMD increase its supply to match the demand of

SCREENPRINT



this popular, low-priced competitor to Intel's Pentium II processor.

Lycos browser

The Web browser war is heating up with the news that Lycos Inc. is developing a branded version of an Internet browser, which it will distribute with its partners in an attempt to lure viewers to its site and build loyalty to its product.

LYCOS Your Personal Internet Guide

IE for Unix

Microsoft has released Internet Explorer 4.0 for Unix, including Sun's Solaris operating system, thus complementing versions for Windows 3.1, Windows 95/NT, and the Apple Macintosh. Download a free copy from Microsoft's Web site.

www.microsoft.com/ie

Internet Explorer

Big hard drives for little machines

IBM has announced the highest capacity 2.5-inch hard-disk drive for notebook computers yet. The Travelstar 6GT can hold 6.4 GB—about three times as much information as the average notebook hard drive—using technology called giant magneto-resistive (GMR) head. IBM will include the drives in its ThinkPad line of computers, and Dell will offer the Travelstar 6GT in its Inspiron and Latitude lines of notebook PCs.

File disaster recovery

Aladdin claims its new FlashBack software is the first program to protect against data loss when users accidentally overwrite or erase a file. Available for both Windows and Macintosh, Aladdin FlashBack allows users to recover previously saved versions of any FlashBack-protected file, from any application, with a simple drag-and-drop or double-click—even if the original file is lost, damaged, overwritten, or erased. Suggested retail price is US\$69.95.

www.aladdinsys.com/flashback

Tel: 978-794-9377

Easy spreadsheet

Fans of the award-winning DOS spreadsheet AS-EASY-AS will be pleased to learn that the new 32-bit Windows version from Trius is available. It has all the basic functions users expect in a spreadsheet (financial, mathematical, statistical, date and time), as well as enriched analytical capabilities such as Min/Max Linear Programming, Non-Linear Multivariate Regression, Two-way Interpolation, Gaussian and Poisson Distributions, and a powerful External User-definable Functions. Suggested retail price is US\$59 (upgrades from the DOS version are US\$39). A 30-day evaluation copy can be downloaded from the Trius Web site.

www.triusinc.com

Maximum muscle

B.C.'s own Maximizer Technologies Inc. has released Maximizer Enterprise 4.0, an application combining the contact management muscle of Maximizer 97 with a sophisticated Opportunity Management System and group security features. Single-user price is \$249.95.

www.maximizer.com

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Java chips

IBM has licensed the core technology of the

PicoJava I microprocessor from Sun Microsystems Inc. for use in custom chips. The PicoJava chip provides support for the Java programming language on the processor itself. Officials from IBM Microelectronics say the company will work with customers to incorporate Java processor technologies into their products. Such products might include smart cards, consumer-electronics devices, and "Web phones" that will work with the Internet.

www.chips.ibm.com

Elite keyboard

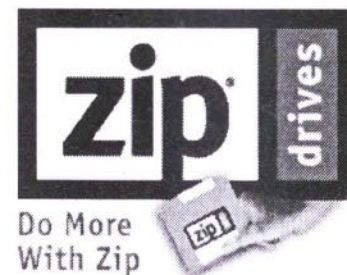
Microsoft has redesigned its popular Natural Keyboard to make way for Natural Keyboard Elite. The upgrade includes a universal serial bus (USB) adapter, and a smaller footprint.

Check out the Microsoft Web site for shipping dates and pricing details.

www.microsoft.com

Zip to the rescue

Symantec has joined Iomega to develop a disaster recovery system based around its PC



recovery software and the Iomega Zip drive. Norton Zip Rescue for Windows 95 will provide users with valuable recovery capabilities from Windows registry corruption, partitionable damage, missing or damaged system files, boot-record damage, lost or damaged CMOS memory, and virus attacks. A Windows NT version is in the works. The plans are to include the software with every Zip drive, and offer the product free from Iomega's Web site for existing Zip drive users.

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- NEC A500/E500.....+\$400/500

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Cyrix 6xMX166/200.....\$960/1030

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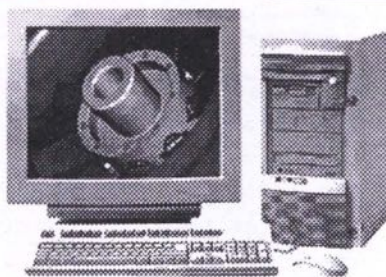
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It's a bird! It's a plane! It's SuperDisk!

BY KEVIN LINFIELD

The battle to replace the standard 1.44 MB 3.5-inch floppy is on! While Iomega's Zip drive has become quite popular, the less-marketed SuperDisk LS-120 is poised to make strong headway, since several clone PC makers are now inte-

grating these drives into their machines.

The LS-120 was designed to replace the standard 3.5-inch floppy disk drive, and as such, is fully backwards compatible with the millions of 1.44 MB and 720 KB diskettes currently in use. It is faster and more reliable than the common floppy disk drive, and can store 120 MB of data (125.8 million bytes, or up to 83 standard 1.44 MB diskettes of information!) using the new LS-120 diskettes.

The name comes from its technology—Laser Servo—and its 120 MB storage capacity. Developed by the consortium of Panasonic, Compaq, OR Technology, and 3M, it is now promoted by Imation Corp. (a division of 3M). Like the floppy, the LS-120 is a magnetic information storage system. But unlike the floppy drive, a laser optical system is used to precisely position a dual-gap head, which gives it 2,490 data tracks per inch (compared to 135 tracks per inch for the 1.44 MB disk) and holds a heck of a lot more data!

The LS-120 is available in both parallel-port and internal EIDE (ATAPI) versions. If your BIOS supports it, the EIDE version is a bootable device in both 120 MB and 1.44 MB modes. The specification sheet claims that the EIDE drive has a transfer rate between 400 KB/s and 665 KB/s (between three and five times as fast as a standard 3.5-inch drive), although this, of course, will vary depending on your operating system and system load.

Day-to-day use

I've been using my internal LS-120 drive for daily backups, and transporting large files between home and work without any problems. I love the fact that it works with all of my operating systems (Windows 95, NT, DOS/Windows 3.1, OS/2 Warp, and even Linux). And, since it is assigned a drive letter (under all operating systems except Linux), it can be used with most backup applications (including Windows Backup, the standard Copy, XCopy, and the Zip and Unzip utilities). Installation was quite simple. When I made it the primary device on my secondary EIDE channel, Windows 95 OSR2 automatically recognized the drive; OS/2 and DOS required additional device drivers, and Linux required at least kernel revision 2.0.33 or higher. Although you can run your programs directly from the drive, it is much slower than a hard drive and I find it best for storing/transferring data and applications that you occasionally run.

Avoid the click of death

The battle between the Zip and the LS-120 is far from over. My personal decision in buying the LS-120 arose from its backwards compatibility with standard floppy disks, a slightly larger storage capacity (120 MB versus 95 MB), and the recent problems with Iomega's "Click of Death" stories that have

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info box

Fusion
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Price: US\$249.

BY GREG SALMAN

Fusion is a much ballyhooed Web site design and maintenance program from NetObjects. The program is not cheap, as far as such programs go, but its comprehensive coverage of the basics makes it worth the price for an inexperienced Webmaster's needs. Conversely, it can be quite a pain to an experienced Web designer.

Beginners lucky

At first it may seem that Fusion offers an array of choices and possibilities that are daunting to the Webmastering neophyte. But once you dive in, you'll find that it's well organized, intuitive to use, and handles 90 percent of what the functions you'll need extremely well.

Some of the most important features of the program are transparent. When you start the program, the first interface you encounter is the SiteStructure Editor, a graphic flow chart

that allows you to organize the individual pages on your site. From here, you simply add new pages, reorganize the pages you have, or import new pages. It's a great way to start, because it immediately forces you to think about your entire site, rather than a single page at a time.

Double-clicking on any one page, and you jump directly into individual page design. You're offered a stunning array of templates to choose from; everything from cute to downright stodgy is available, and it's all customizable in practically any way. This feature in itself could save you a ton of time. Fusion is one of the few products on the market that allows you to place elements on your Web page in any position, and change that position practically down to the pixel. This is an excellent feature for designers who don't know (and don't want to know) HTML (hypertext markup language).

Simply drag and drop, then re-drag and re-arrange the elements that you've picked, or generated, around the page. Fusion immediately takes care of all the coding. Several nice features allow you to specify borders of various types and sizes on all four sides of the page, and then update these borders anywhere on the site; you only have to make the change once, rather than on every page—an

excellent feature if you're someone who likes to change your mind a lot.

A bit squirrely?

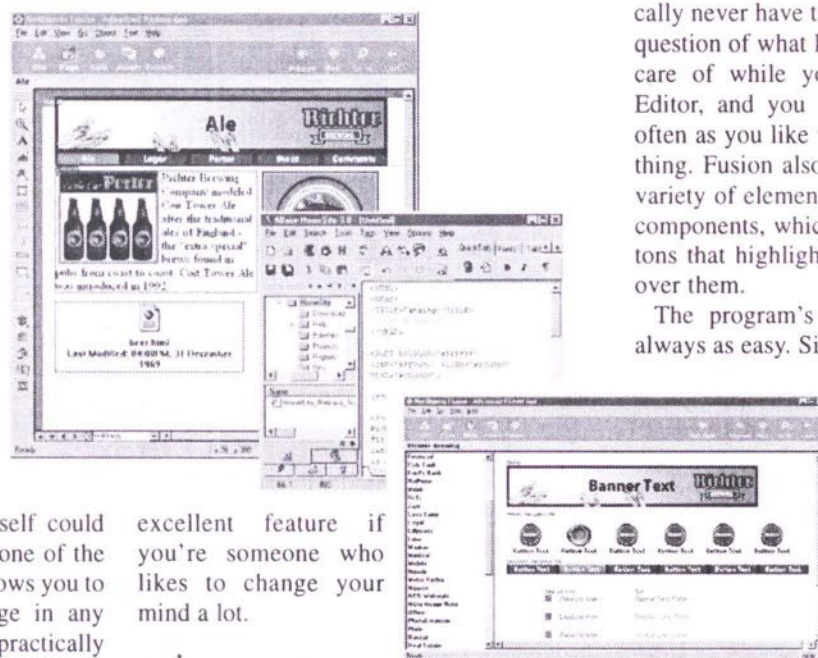
Fusion is very odd in the way it saves its work, creating temporary files that make it hard to find and/or change things outside the program itself. You essentially have to finish the site, or page, then select Publish (in Fusion's parlance) for it to output as finished HTML. To make any changes, you have to go back to the work-in-progress, make the changes, and Publish again.

The program's capacity for handling links around the site is extraordinary. You practi-

cally never have to concern yourself with the question of what links to what—it's all taken care of while you're in the SiteStructure Editor, and you can change your mind as often as you like with no need to relink anything. Fusion also allows you to add a wide variety of elements, such as Java scripts and components, which create such items as buttons that highlight when you roll the cursor over them.

The program's handling of frames isn't always as easy. Simple frames are handled in a straightforward manner. You can turn any border you create into a frame. If you want to change the target of a frame set or add several frame sets, however, it can be pretty complicated.

There's no question that if you're totally new to Web publishing, and don't really want to know how to program HTML and Java—and are willing to commit yourself to using just NetObjects Fusion—this is a great tool. There are a few drawbacks, but this is also true for other Web-authoring tools, and Fusion offers the most choices. There's no question that Fusion is a great tool for building a site from scratch, but to tweak that site and some of the individual pages in it afterwards can be a real challenge. ♦



Web graphics handling made easy

info box

NetGraphics
From Hemera Technologies,
<http://www.hemera.com>
For Win95. Price: \$99.99.

BY TIM BINGHAM-WALLIS

Creating Web pages is fun—or it can be, if you have the right tools. Over the past year, several programs have hit the shelves that help users spend more time playing with site design by spending less time on mundane tasks. NetGraphics, by Hemera Technologies, is one such tool.

The use of graphics is one of the most time-consuming, least understood, and most important elements of Web site creation. Because graphic elements tend to be the largest files in a Web page, designers spend an exorbitant amount of time tweaking them

to make sure they look good at the minimum file size.

There is always a trade off in Web design: content versus size. Everyone wants to see an attractive and flashy page that combines graphics and text, yet everyone also hates to wait for them to download. So the challenge for Web designers is to maximize graphic content with the minimum file size.

The key problem is the choice between compression formats. Different types of graphics suit particular file formats. The two main compression formats on the Web are GIF and JPEG. Virtually all major graphics programs and Web browsers support these formats.

What's the GIF?

Generally, GIFs are best used if a graphic has constant colour use, whereas JPEGs are of most value when a Web graphic has a lot of detail.

Choosing between the two compression types is made more difficult because each can compress at a higher or lower quality. The higher the quality of the image, the more memory the compressed file is allocated.

In the past, choosing between the file types was a matter of patience—using the "save as" command several times and comparing the quality of each image in both compression formats. To make matters worse, once the image was converted into the final format, it became very difficult to re-edit or resize.

NetGraphics does an admirable job of addressing these problems by converting a given image into a Web-ready format in real time. The program automatically determines the most effective file compression format for a particular graphic. If you aren't satisfied with the choice offered, graphics can be previewed in either compression format. The preview mode not only shows the quality of the image, it shows the file size—a great feature for comparing various compression types.

NetGraphics also resizes compressed images intelligently. Usually when images are enlarged, they become bitmapped or jagged. With NetGraphics you can smooth out some of the rough edges and create an attractive image.

What differentiates NetGraphics from previous Web-graphics programs is its simple

WYSIWYG interface. It's intuitive and fun—two ingredients for any successful program.

Bundled with the program is a CD-ROM full of high-quality Web clip art, and a graphics database to track your image use.

NetGraphics is an outstanding value for the price, both for Web enthusiasts and professionals who want to maximize the quality of online graphics. ♦

It's SuperDisk ...

continued from page 38

been mentioned in various magazines and on the Internet. (The scenario involves the drive failing to read a disk and simply making a "clicking" noise.) Hopefully, the choice between a Zip and LS-120 drive will not turn out to be a "Beta vs. VHS" battle.

The LS-120 is available from computer stores everywhere for approximately \$150 for the internal EIDE version, and \$200 for the parallel port version. Individual diskettes retail for about \$20 each. For more information, check out Imation Corporation at <http://www.imation.com> ♦

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Increase your Net-searching power

BY PAUL ANGYAL

Finding information on the Internet is akin to locating the proverbial needle in the proverbial haystack with a quantitative difference: first, you have to define the type of needle you are looking for and, second, you are dealing with a haystack that grows by the minute—so the needle you happily embraced just yesterday may not be as good a match for “your” needle as it could be today.

Now, if this sounds confusing enough, then you are rather close to accepting the fact that any and all types of information you retrieve from the Net only reflect that very moment's standing. Accepting that as we accept our own mortality will give you the proper spiritual preparation before you begin to hunt.

Bot buddies

The Internet as an information resource is so huge that even comprehending it borders on the impossible. Content is available on millions of Web sites, newsgroups and mailing lists, and ftp (file transfer protocol) libraries. Getting what's really useful is a daunting task that no ordinary man or woman should under-

take alone. Best to take some knowledge and the expertise of others along. And who can do it better than robots? Noooooobody! The question is, which ones to hire?

It is one thing if you know precisely what you are looking for: a specific article from a magazine, a medical paper, a review (or reviews) on a software title, or maybe a new car; but if all you have is a hunch or a desire, you have to be better prepared.

It is a good idea to first try to formulate what you are after in a number of different ways: single words, multiple words tied together, and/or short phrases. This is similar to an artist's or an architect's first sketches. Then, try to put the question into its “natural” environment or category. For example, when looking for bread-making tips, it kind of feels natural to find that around the category “home,” just as carpeting, interior decorating, wallpapering, or dessert recipes would feel “natural” attached to the same general area of interest.

The next step is to hand the job out to the minions, or search engines. But beware: search engines have individual attitudes insofar as they index content differently, and the

“hits” they bring back can be influenced by the clever dressing-up of commercially oriented Web sites using all the tricks of the trade (key words, meta tags, alt tags, and other paraphernalia) to trick the robots to place their site closer to the top 20 or 30 returns, regardless how you input your search criteria.

Besides, there are countless search engines out there, all of which claim to be the best.

Who searches the searchers

Luckily, there are second-level, so-called hyper or meta-search robots—those that search the searchers. Going to a meta search engine first is akin to hiring a general contractor when renovating your house and letting him or her do the runaround and pick the right trades instead of you. The benefit is that a single search will give you a fairly accurate first feedback (i.e., whether your first categorization cut along the grain or you were completely out). Based on this first round, you can then refine your criteria for the second, and maybe a third session.

Once you have gone through this phase, you are ready to delve into individual searches. ♦

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—Paul Angyal

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3. Address: _____
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6. Do you subscribe to an online service? ☐ Yes ☐ No
7. Have you ever made a purchasing decision based on info you read in *CC!*?

<input type="checkbox"/> Yes, my decision was based on	<input type="checkbox"/> Advertising	<input type="checkbox"/> Editorial
<input type="checkbox"/> No		
8. My \$1,000 IKEA home office consists of: (Please list name & value of each item selected.)

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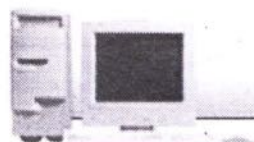
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Want versus need: The SOHO struggle

"Fortunate indeed, is the man who takes exactly the right measure of himself, and holds a just balance between what he can acquire and what he can use."

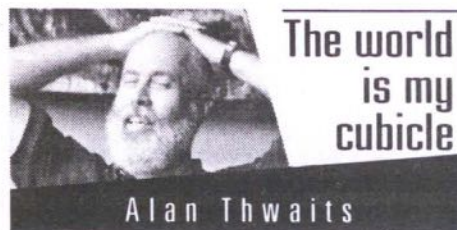
—Peter Mere Latham

This quote addresses the ever-present issue of SOHO techno-lust. We live in a society in which immediate gratification often wins out over long-term interests. I'm not going to try to assign blame for this tendency, because, as with all societal trends, the "I want it now" feeling is rooted in more than a single dynamic.

SOHO operators face a particularly trying form of the tension between wanting the latest and greatest and living within a budget. If your business depends on delivering the goods in a timely and pleasing fashion, it makes sense for you to purchase the tools that will do the job. Unlike governments, however, SOHO businesses can't run deficits. As much as acquiring new technology might make sense, you have to live and work within some very real limitations.

The waiting is the hardest part

Ah, but the pain of waiting! You say you're doing okay with that 33.6Kbps modem, but



think how efficient you could be with a cable modem! You've discovered the truth of the old saying that you can never have enough hard-drive space—the 1.6 GB drive that seemed to be the answer to all your prayers last year now looks like an old black-and-white movie compared to the Technicolor and Dolby Sound of a 6 GB drive. And of course your favourite word processor is getting a little long in the tooth, but you can't get it anymore as a standalone, so you're looking at an application suite bigger and prettier than the Taj Mahal.

And all of the above mean big bucks—bigger than this month's receivables, for sure, maybe even bigger than three months' receivables. What am I supposed to do, you wail? Remortgage the house? Send the kids out to work? How am I going to get that stuff?

Calm down, good and gentle SOHOer.

Before you do something drastic with your life and the possessions of your loved ones, spend a few moments considering a strategy. Take a deep breath, visualize warm and fuzzy things, and work with me a little. Here are a couple of points to consider about finding answers to your techno-lust.

Runnin' down the dream

Think about "want" versus "need." Sorry to sound like everyone's mom, but it's always a helpful—although usually painful—exercise to decide whether that new gizmo falls into the want or need category. Sure, I want a 17-inch flat-screen monitor (doesn't everyone?), but at current prices for the beasts, a flat screen definitely falls into the realm of things I can do without right now.

What makes this exercise productive is delineating what determines need versus want. Although a flat-screen monitor may be out of the question, advancing years and failing eyesight make some increase in monitor size a practical idea. And the habit of new operating systems and applications taking up more screen space can push the purchase of a new monitor into the "helpful" department (which lies in between want and need). So, your decision moves from the want of flat

screen to the need of larger monitor, and a rational decision can then be made.

Next comes the idea of leverage. Learning to make the most of what you've got can bring pleasant surprises. If your business calls and online time are conflicting, the first temptation is to call Mother Bell for a second line. Before you place the call, phone your local business supply or electronic parts shop and starting taking notes. How much would it cost to get a line splitter, as opposed to a new line? Does the phone company have any options that are geared specifically to your situation? Maybe, just maybe, you can go back to square one and work out a schedule for your online time that doesn't conflict with incoming calls. The added benefit of leveraging a solution out of existing options is the personal satisfaction of having fought the battle on your own terms and won. And remember, casually describing how you use a line splitter to access both Net and voice lines may add to your status at your next SOHO networking meeting! ♦

Alan Thwaits is a freelance journalist who specializes in mobile computing and online technologies. He can be reached at nomad@praxcomm.com.

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BY WILLIAM A. WOOD

There's an aspect of technology that often gets lost in the SOHO/"make-the-Net-work-for-you"/productivity-suite shuffle—sometimes computer technology is just plain cool.

I had the opportunity to visit the Creative Labs offices and see a demonstration of its latest 3D graphics-accelerator video card (based on the hotter-than-Hades, brand-spanking-new Voodoo2 chipset from 3Dfx). I came away with a greater understanding of the word "greed."

For the past 18 months or so, you've probably been hearing a lot about 3D accelerators in general, and 3Dfx in particular. 3Dfx's Voodoo chipset was a breakout product that

produced awesome-looking graphics in such games as Quake, Tomb Raider, and many, many more.

Like many people, you may even have taken the plunge—and been well rewarded for your investment in terms of gameplay (that's, of course, pretty much all these cards do—forget practicality, just enjoy it!).

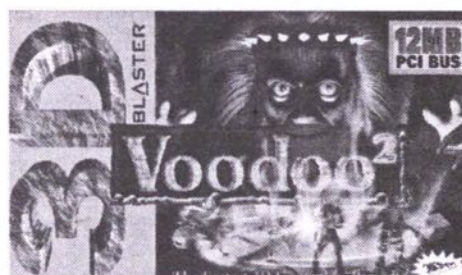
Well, you ain't seen nothin' yet. The Voodoo2 chipset delivers more than three times the speed of its predecessor. As they said in *Spinal Tap*, "These go to eleven."

Pass the drool towel

You want to talk figures? How about Quake II frame rates? My Diamond Monster (4 MB) cranks out roughly 30 frames per second (fps). Impressive, sure. The 3D Blaster Voodoo2 (12 MB version), however, zips along at about 70 fps. Yikes!

And as if that weren't enough, you can link two 3D Blaster cards together, which will allow you to play games in 1,024x768 resolution and still get 50-60 fps, assuming the game uses Z-buffering (you can play in 1,024 with one card, but only if it does not use Z-buffering).

Creative very quietly ambushed the mar-



ketplace with its new video card, which, at the time of this writing, is flying off the shelves in the 12 MB variety only. Supply is so far behind demand that Creative has decided to use its existing stock of the new chipsets in the high-end model only for the time being. By the time you read this, though, the 8 MB should also be available. The 8 MB version will include a software bundle (i.e., games). The 12 MB is sold "as is"—which is as most things in this life should be, so no complaining!

As you can tell from the name of the card, Creative has forged a "special relationship" with 3Dfx Interactive, makers of the Voodoo2 chipset. As such, the company seems poised to grab a huge chunk of the market from such luminaries as Diamond and Orchid. Time will tell.

Ready, willing, (play)able

When the first Voodoo chipset came out, it took awhile for gaming companies to take advantage of it. Well, the market is more than ready for Voodoo2. Here's a short list of games (mostly upcoming) optimized specifically for the new technology:

- Duke Nukem Forever (GT Interactive)
- Half-Life (Sierra)
- Flight Sim '98 (Microsoft)
- Forsaken (Acclaim)
- Quake II (Activision/Id Software)
- Daikatana (Eidos)

Some of these titles are in and of themselves eagerly awaited. Factor in the mercurial frame rates, coloured-lighting effects, and smoother-than-smooth textures that Voodoo2 will bring to the table, and gamers everywhere will be foaming at the mouth.

While in Creative's offices, I saw a demonstration of Forsaken—a Descent-type game that, despite its rather sexist ad campaign, looks to be shaping up as one of 1998's greatest hits—and I was simply amazed. All I can say is, I want one. And anyone who sees the 3D Blaster Voodoo2 in action will want one, too.

It's as simple as that. ♦

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Myth is a 3D masterpiece

info box

Rating: 5 out of 5

Myth: The Fallen Lords,

From Bungie Software. For Mac/Win95/WinNT 4.0 CD-ROM.

Price: \$65-\$75.

A patch (version 1.2) is available via <http://www.bungie.com> (but the game is virtually bug-free).

BY WILLIAM A. WOOD

Every now and then a computer game comes along that just makes you say "Wow!"

Myth: The Fallen Lords is a deceptively simple, yet utterly gorgeous real-time strategy game. Throughout a series of "squad-level" tactical engagements set in a typical medieval fantasy world (which means swords, arrows, the undead, and the occasional giant), you're in control of various units on a 3D battlefield. Unlike most RTS

games on the market, there is no harvesting of resources or "building" of troops. What you have at the beginning of a battle is all you're going to get. Better make it count.

The most notable thing about Myth is its look. It has a decent 3D engine (software) built in, but if you take advantage of its support for 3Dfx cards, the graphics become stunning. Without a doubt, Myth is a showcase game for 3D accelerator cards.

What Myth does with that 3D power is even more impressive. The game keeps track of everything. Every arrow that misses litters the ground. Every wound leaves a spray of blood or dust. Every explosion scorches the ground and scatters the limbs, bones, and armor of your enemies (and your own troops—be careful!) hither and yon.

Some battles are fought in the snow, and the game even marks each footprint!

Making a mess

Myth is definitely not for the squeamish (there was supposed to be a "no blood" option, but it didn't make it into the game). The scars of war are readily apparent, and the carnage and debris rapidly accumulate over the course of the battle. (This makes it easy

to retrace the progress of the fighting, which the game allows you to do over and over again through its ability to save and play back recordings of each battle.)

The mix of available units is a fairly simple assortment of hand-to-hand and missile-firing combatants. During the single-player campaign of 25 missions, you can only play the "good guys" (this changes for online games). Each mission is prefaced with a very stylish "journal entry" introduction, followed by entertaining animated cut-scenes that advance the game's overall plot.

It's the online Myth that really sends this game over the top. Don't get me wrong—the single-player game is quite challenging—But once you taste the online game, it's hard to let go.

Every copy of the game has a registration number that allows a user to log into the <http://www.bungie.net> Web site for free (sorry, Quake fans, only one player per copy). There they can participate in either normal or "ranked" battles against Myth players around the world. Both joining and hosting battles is a matter of a few mouse clicks, and with access to the "evil" units, the variety becomes practically endless.

In addition to the traditional "body count" type of contest, there are variants such as "capture the flag," "last one on the hill," "steal the bacon," flag race, and others available for a real change of strategic pace—not to mention the "team" system, which challenges you to divide your forces between allies. No matter what variation you play, games last around seven to ten minutes.

The ranking system keeps track of how well you perform in ranked battles. This is an insidious way of creating "one-more-game" pressure. If you have a run of bad luck and lose rank, you want to get it back. If you gain rank, you crave more—perhaps you could even reach the legendary Comet rank as the best Myth player in the world! There are currently almost 14,000 players jockeying for position on the leader board.

What more can I say? I love this game. It provides nearly infinite tactical enjoyment in a variety of settings (desert, snowscape, swamp, forest, ruins, and so on). And it's available for both Macs and PCs, which makes for some great grudge matches. ♦

William is better known to Myth players the world over as Bitter Bill.

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Digital datebooks...and more

A look at contact managers

BY DAVID ROSEN

If you're always rushing to meetings and missing information, you've probably wished for a better way to keep appointments and contacts than on the Post-it notes you keep losing. Hey, why not try the computer? To catalogue all those bits of information, you can use a contact manager, the software tool for the organizationally challenged.

What is a contact manager?

At first glance, a contact manager is simply a database with lots of customized, pre-configured templates. Into these templates you enter business card-like information about your friends, family, and business associates. Most contact managers also have features such as calendaring and phone-book dialing.

Some packages launch your email software and automatically address your message whenever you double click on a person's email address. Other offerings link your contact information with your schedule/calendar so you don't have to waste time retyping. For example, if you schedule "Lunch with Lara," a smart contact manager should know that you mean "Lara King, editor at *Canada Computes!*" and give you her business address, phone number, and even her restaurant preference.

Do you fit the profile?

Of course, anything that sounds too good to be true usually is. Contact managers can be cumbersome, complex, and a pain to use. They are very personal choices for people: just like a real-world relationship, it's important to look at your contact manager as a partner and have a trial period before you commit fully. After all, a contact manager should suit the way you do business, not the other way around.

You have to consider how fastidious you are about recording information in a timely manner. If your pockets are constantly bulging with business cards and loose paper notes, the sanitized world of computer-based contact managers may not be for you. Are you a road warrior or other business professional who is constantly on the move? Better use the contact manager on a laptop (or palmtop) and make sure it can synchronize with your computer back at the office.

Similarly, if you have the luxury of an assistant, make sure your contact manager has network compatibility (and security) so your staff can keep you up to date. Finally, if you work in an office with both Macs and Windows-based computers, you should look for a cross-platform contact manager.

Lotus Organizer 97

(Windows 95 and 3Com's PalmPilot)

The first contact manager we'll look at is Lotus Organizer. The software uses the everyday metaphor of a notebook to help you

manage tasks you do every-day, such as keeping track of appointments, making lists of things to do, and writing up telephone calls you've made (or need to make). It looks like the familiar paper-based organizers you may already use and even has tabs to separate its modules to complete the look and feel of a "real-life" organizer.

You store your contact and phone-log information in what Lotus calls the Address module. Another module, called Notepad, provides a way to capture important text or graphics or store information from other documents and applications. Lotus Organizer lets you see the big picture by allowing you to view all your time-related information (To-Do, Planner, and Anniversary modules)



either separately or together in the Calendar module.

Just about any entry can be linked with any other entry, so you can easily connect Calendar appointments with, for example, a client's address record and driving directions stored in a Notepad page. Lotus Organizer lets you print your information in over two dozen different layouts, such as a monthly calendar, trifold, address labels, and to-do lists. In fact, the program is so involved, the package comes with a separate 37-page Print Layout Guide. You can buy Lotus Organizer for about \$100.

Claris Organizer (Macintosh)

Unlike the competition, Claris Organizer takes a "less is more" approach to contact management. The \$99 software bills itself as "the easiest way to get organized" and we found it lived up to its billing. A Ten Minute Tour was installed with the Full Install and, although short, the tool introduces new users

continued on page 49

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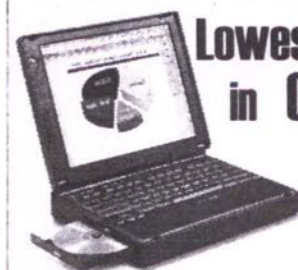
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BY MARC SALTZMAN

Marc, our resident game guru, has been on the road (in the sky, actually) gathering info on some major new releases. Here's his report.

Due to the advent of 3D accelerator cards and increased processing power, computer games have finally caught up and surpassed console systems in the last of the competing genres—sports games.

In fact, PC sports titles have witnessed a 50 percent increase in retail shelf space over the past two years, even toppling real-time strategy titles as the fastest-growing gaming category. Considering these noteworthy statistics from market research companies like PC Data and Jupiter Communications, it comes as no surprise that software developers and publishers are now aggressively charging after Electronic Arts Sports' dominating presence.

Sierra launches Sierra Sports line

Such is the case with 20-year-old gaming veterans Sierra On-Line, Inc., which recently solidified its commitment to producing a prolific yet centralized sports lineup, dubbed Sierra Sports. By combining its award-winning Front Page Sports, Dynamix, and Papyrus brands, Sierra intends to secure its market share with its focused line of racing, stadium, golf, and "alternative" sports titles.

On Feb. 13, approximately 75 employees of Sierra's corporate staff and sales teams, and members of the press, were invited to the official launch party at the illustrious Daytona 500, in Daytona, Fla., to commemorate the inauguration.

New titles were discussed and a few "hands-on" products looked quite impressive, including many sequels: Golf Pro 2.0, Football Pro 99, Baseball Pro 99, Ultimate Soccer Manager 98, Trophy Bass 2 Deluxe Edition, Grand Prix Legends, Fantasy Football 99, and an updated NASCAR 2 bundle with a Grand National Series expansion pack. All of these titles are slated for a late summer/early fall release, while winter games—NASCAR 3 and Basketball Pro 99—are scheduled to compete as stocking stuffers against Electronic Arts' related products for the 1998 holiday season.

Recently shipped titles such as Football Pro

98, Ski Racing, Trophy Rivers, and NASCAR 2 will be repackaged and redistributed back to retailers with the new Sierra Sports box and logo artwork.

Internet multiplayer support for these games was not confirmed, but the majority of these titles "should" be playable via Sierra's new network, Won.Net (<http://www.won.net>). Computer gamers can also bet that Sierra has stepped up to the plate to include 3D accelerator support for most stadium and racing titles.

Can it topple Electronic Arts from its throne? Well, considering Sierra Sports and Sierra On-Line, Inc. are part of Cendant Software, one of the largest PC consumer-based software groups in the world, you can bet plenty of money and resources will be allocated to ensure a solid effort.

By the way, Cendant Software's other major gaming divisions include Blizzard Entertainment (Diablo, Starcraft, and the Warcraft series) and Berkeley Systems (You Don't Know Jack, You Don't Know Jack—The Net Show, and Acrophobia).

Ah, the sweet

set to make a gamer's life easier and more interesting.

Legendary designer Bruce Shelley was on hand to discuss Ensemble Studios' sequel to the best-selling real-time strategy game of 1997 (Age of Empires, 900,000-plus units shipped). Age of Empires II continues where its predecessor left off—at the dawn of the Dark Ages, where players must control the destiny of humankind for a thousand years, ending in the late medieval period.

This time around, new features have been added such as troop formation, improved unit artificial intelligence, larger maps, new naval warfare options, animated buildings, and more than 13 diverse cultures to manage.

Age of Empires II will be available this fall on CD-ROM, with free multiplayer games hosted by the Internet Gaming Zone.

Although Microsoft already has Fighter Ace in its current lineup, another World War II aerial-combat simulation was shown at Gamestock, currently in development using the proven Microsoft Flight Simulator engine.

Code-named Spitfire, this historical sim places the player behind the cockpit of eight realistically modeled, highly detailed aircraft

thrill of competition. Play ball!

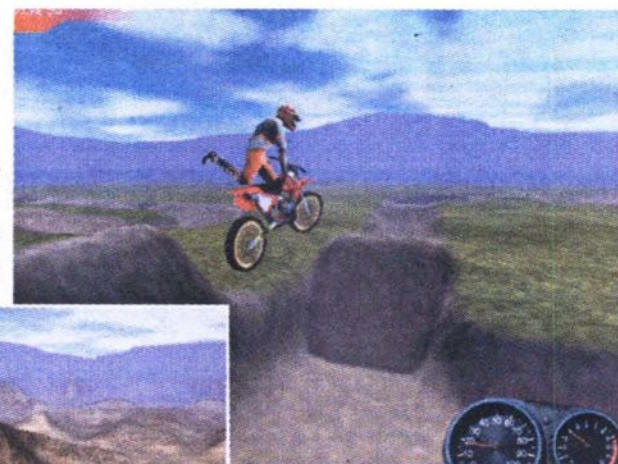
Microsoft's Gamestock 98

Completely exhausted from the Sierra launch, but eager to learn more about what's on tap for 1998, I headed directly to Redmond, Wash., to see what Microsoft had up its sleeve for us anxious PC gamers.

The annual Gamestock event took place Feb. 17-18, where roughly 60 members of the domestic and international press were invited to Microsoft's main campus. It was here, behind closed doors, where the company unveiled new software and hardware, plans to improve its Internet Gaming Zone multiplayer network, and how Windows 98 is

including the Spitfire marks I and IX, the P-47D Thunderbolt, and the P-51D Mustang, to name a few.

Spitfire features photo-realistic rolling terrain of over 30 cities (such as Berlin, Paris, and London), Internet



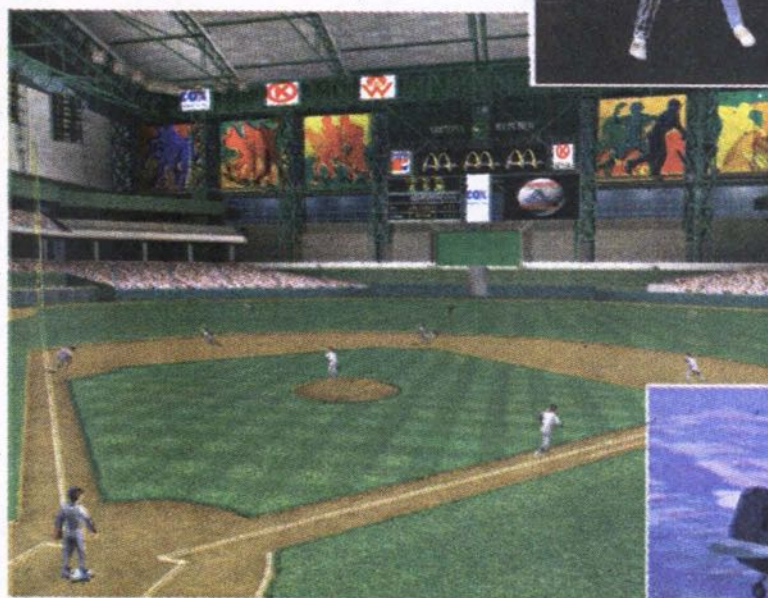
play for up to eight players, Force Feedback support, and the ability to import aircraft, scenery, and missions from older software packages (supported by Flight Simulator). Expect Spitfire to climb the retail charts beginning in September 1998.

Other upcoming software titles

published by Microsoft include Terratools' Urban Assault, Rainbow Studios' Motocross Madness, SingleTrac's Outwars, WizBang's Baseball 3D (3D accelerator card required), Friendly Software's Golf 1998 Edition, Terminal Reality's Monster Truck Madness 2, and Microsoft's Revenge of Arcade (feature 1980s arcade classics Ms. Pac Man, Xevious, Rally-X, Mappy, and Motos).

A very unique controller, dubbed Tilt (a working title), had the Gamestock attendees' arms twisting and turning frenetically for hours on end. This two-handed gamepad features a new free-motion technology that allows players to simply tilt the device side-to-side or up and down to mirror the control onscreen. Tested with the exceptional Motocross Madness demo, Tilt proved to be a fun, intuitive, and original gaming device. This new addition to Microsoft's award-winning SideWinder product lineup will be released to stores in September or October 1998, and will ship with one game and SideWinder game device software to program the buttons, triggers, pad, and thumb throttle for other titles.

Regardless of individual gaming tastes, Microsoft is evidently focused and committed to be taken seriously by both consumers and critics alike. And if the games, devices, and services on display at Gamestock are any indication, 1998 looks to be the second year where Microsoft continues to amass the respect it deserves from of the gaming industry. ♦



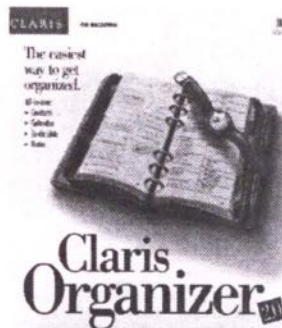
Software

Digital datebooks ...

continued from page 47

to the program's key features.

Claris Organizer contains four modules. The Contacts module is built around an index card metaphor. You use Contacts to store



information about your friends, family, and business acquaintances. Customize entries to include a particular format or specialized graphics if you wish. The Task

module lets you prioritize your tasks using color and other formatting controls. Notes contains, well, notes about your contacts including addresses, birthdays and other information. Finally, the Calendar module lets you set appointments, record events (one-time or recurring), and schedule tasks.

Claris Organizer doesn't have a dedicated word processor like Symantec's ACT, but it is designed to integrate with other Claris packages, such as ClarisWorks or MacWrite Pro. In fact, Claris Organizer has a number of one-click buttons that help you create pre-addressed letters and memos using other Claris software. There are three views in Calendar mode: daily, weekly, and monthly. Once an appointment is made, you can reschedule it by simply clicking on the box representing the appointment and dragging it somewhere else on your screen representing the different time or day.

You can attach any number of things to any item in a Claris Organizer entry. For example, you can attach the latest copy of your departmental budget to the "Finalize Department Budget" item in your calendar and then set an alarm to remind you to start working on the budget before the meeting.

Symantec ACT!

(Windows 95 and Macintosh)

ACT is the most "serious" of the three contact managers tested. If you can't find it in ACT, it probably doesn't exist. Besides being very powerful, ACT is also the most versatile, since there are versions now available for the PC, Mac, Power Mac, Apple's MessagePad, some HP palmtops, and even Psion handheld computers!

The problem with ACT is that it does so much that the instructions and functionality are rather complicated. We also needed to use the Custom Installation to get the special Canadian version. You might miss this requirement and do the Easy Install. If so, you'll get the U.S. version of the program, complete with State and Zip codes.

Once installed, ACT works well and the software is stuffed with its own applications, including a mini-word processor complete with spell checker and report generator. Plenty of predefined formats are available for memos, letters, faxes, and email, and the report generator has a variety of reports included. If you would rather not use ACT's internal applications, the User Preference screen lets you select Microsoft Word or WordPerfect for word processing and Microsoft Fax and Symantec's WinFax Pro for faxing.

ACT files can be shared on a local area network (LAN), with password protection and three levels of security.

You can also email contact information and use ACT's Group feature to schedule and view other users' activities, including setting warning alarms to notify you of upcoming meetings or calls.

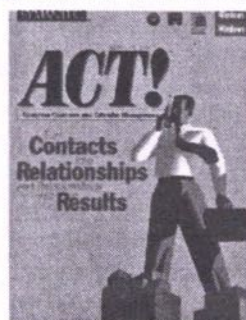
At about \$200, ACT is a fantastic, full-featured contact manager. If you have the willpower and perseverance to learn all its functions, you will likely become an ACT junkie.

If you do, the program takes such an all-encompassing approach to managing your contacts that you might wonder how you ever did without it.

More, more, more

Is that it? No, not by a long shot. Here are some other contact-manager programs:

- Maximizer 97, from Vancouver's Maximizer Technologies, Tel: 604-601-8000.
- Now Contact, from Qualcomm, Tel: 503-274-2810.
- SIMiN, from SIMiN Business Systems, Tel: 800-557-4646. ♦



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再談 Internet Phone (免費國際電話)

作者：林啓清 (JimLin)

一、前言

由於社會的進步，人與人之間的互動也有了很顯著的改變？

以前，人與人是靠信件來與遠端的親友聯絡。慢慢的，由於電話的發明，人與人的感情維繫就轉由細細的兩條電話線在負責。尤其是遠在各地的移民或遊客。長途電話費幾乎成了日日的開銷，真是讓人又愛又恨(愛的是電話的方便性，恨的是電話費對荷包的強大傷力)。

IPhone 這個軟體在 Internet Phone 市場佔有率高達80%以上，是個極為強悍的程式。目前的最新的 5.0 版除了支援原有 4.x 版的所有功能(有文字交談、繪圖白板、語音信箱、語音留言、圖形即時傳輸等功能)之外，還多了一個 Internet Phone 與家用電話的直撥轉換功能。

什麼叫直撥轉換功能呢？就所衆知，使用 Internet Phone 必須通話的兩端都有電腦及軟體，當然也要有連接 Internet 的能力。但是使用 IPhone 5.0 版可以讓您從電腦撥到一般的家用電

話，但是您必須先向提供該服務的公司開設帳戶，透過 Visa 卡來支付電話費(比一般家用國際電話便宜)。

二、IPhone 的使用技巧

1) 等等我

如果您所使用的聲霸卡(Sound Card)是半雙工(Half Duplex)，又恰好遇到對方是使用全雙工(Full Duplex)的卡且背景雜音很大，您可能只當聽衆囉！因半雙工的卡只能一次做一件事(講或聽)，所以一旦對方開始講(沒有停)您就只能聽的份，必須要等到對方不講任何話(或聲音)，才會輪到您開講...)

這裡所提的全雙工與數據機(MODEM)的全雙工是完全不相干的，而且數據機是否有全雙工與您使用 Internet Phone 一點影響也沒有。

再告訴讀者一件事，數據機的全雙工功能在目前來講，完全是用不到的...:-) 所以，想用 Internet Phone，先換片全雙工的卡吧！有些卡號稱是全雙工的卡，但是卻沒有雙工的效果

，讀者的眼睛必須要睜亮哦？

2) 禮貌乎

我們知道 Internet Phone 是透過 Internet 來講話的一種軟體，所以當以下幾個變數有變化時，都會造成通話兩端停止通話：

- 1) 與 ISP 間的連線中斷(可能是電話線路或數據機有問題)
- 2) IPhone 的 Server 故障
- 3) 某一方使用試用版(3.2 版以前)的 IPhone 時間已到
- 4) 其他不明原因

既然變數這麼多，您可不可能在與 ISP 斷線(非您所能控制)前，與您的談話對象先說對不起，我等一下可能會被 ISP 斷線？因為，不管您是有意切線或無意切線，還是很不甘願的被 ISP 斷線，與您交談的對方根本就搞不清楚您是為什麼不見的？

3) Internet Phone 通話技巧

不管您用的是那一家公司所設計的通話軟體，大多會有 Delay(延遲)的現象，而無法像一般電話那樣 100% 即時通訊？所以，在您講話後，要等到對方聽到話，而且回答您的話，一般約需 5 到 20 秒左右(視雙方的 Internet 交通狀況)。就是因為如此，所以講 Internet Phone 是需要有耐性的，如果您按耐不住性子，那建議您忘了 Internet Phone 這件事。

三、Internet Phone 的發展

如果您用過 Internet Phone，您應該大概可以嗅到電信革命即將到來？

只要 Internet Phone 技術繼續改進，傳統的長途電話服務公司前途堪慮！除了這種透過 Internet 所開的電話公司之外，也有人想到透過 Internet 來通話，但是不需使用電腦及麥克風，而是很簡單的透過一般電話機？

根據筆者在三月份借來一套所謂的 InfoTalk(透過 Internet)來測試，大致上的效果還不錯，已經比 VocalTec 的 IPhone 效果好蠻多的。使用這種設備必須兩端各買一個轉換盒，而轉換盒接上電話線及電話機就大功告成。接著要透過電話機，將您個人的 E-Mail、ISP 電話(Internet 公司電話)、DNS 等資料輸入到轉換盒裡(真的很簡單，一點都不難)，就可以開始來跟另外一端通話了？

Internet Phone 都要透過 Server(伺服器)來做配對通話，所以當 Server 因為負荷過重而當機時，您與對方的通話也就自然中斷。而筆者所測試的那種轉換盒幾乎是不透過 Server 而直接是點對點(Point to Point)來通話，所以雙方的通話並不受 Server 的影響，但是依然會受兩端 Internet 交通的好壞而影響到通話。

而通話的方法就更簡單不過了，您只要直接拿起電話撥對方的電話(對方當然也要有一個轉換盒)，在接通後，任何一端按電話機上的 # 字鍵，轉換盒就會切斷兩端的長途電話連接，而改用 Internet 連接。

所以，從長途電話接通到轉換到 Internet(您的話筒都不能掛)，約需 2-3 分鐘(看雙方的 ISP 容不容易接通，如果遇到忙線會自動重撥)，在 Internet 電話接通時，轉換盒會發出悅耳的音樂聲來通知您，您就可以繼續與對方透過 Internet 來講話，但是卻不需要支付任何長途電話費哦！

很神奇吧！其實一點都不神奇！因為在您撥長途電話給對方後，在任何一方按下 # 鍵之後，兩個轉換盒會先互相交換自己的資料給對方(約在五秒內完成)，在交換完之後才會切斷長途電話的連接，自動改撥 Internet。

換句話講，用這種轉換盒您依然要支付一點長途電話費的...:)不過，話又說回來，這樣也很方便，不用兩端要預約時間來通 IPhone，只要隨時撥去，想用轉換盒通話就按 # 鍵(透過 Internet 不用錢)，不想用就繼續通話(當然就要付長途電話費囉)。Sxxxxx 長途電話公司說十秒內掛掉免費，那只要長途電話公司選用 Sxxxxx，那豈不是一毛長途電話費都不用了(得祈禱轉換盒能在十秒內掛掉長途電話)？但轉換盒要透過長途電話來交換兩端的資料，所以如果您的長途電話公司的通信品質不夠好(頻寬不夠)，那會讓兩個轉換盒沒法順利交換資料，沒辦法交換資料的話，兩個轉換盒就不可能透過 Internet 來讓您通話了？

根據筆者測試，如果使用 Sxxxxx 長途電話公司可以順利使用 InfoTalk，但是改用 Axx 就一直無法順利交換資料(以上測試都是針對臺灣通訊而言)。對了，這個轉換盒的聲音延遲約在 5-7 秒之間，也就是單邊延遲約 3 秒左右，還算是在可接受的狀況！

四、結語

Internet 上商機無限，Internet 上有無限的資料，但要怎麼善用，這是每個現代人都該有知識。水能載舟亦能覆舟，Internet 在方便之餘，也造成了許多以前所想像不到的問題？

筆者應邀在 4 月 20 日晚上 7:30 到台加文化協會再舉辦一場演講(擁抱 Internet)，如果讀者有興趣也可在當天到場與筆者一敘(詳情請直接與該協會 Eddie Fang 查詢即可)！

如果您有任何批評指教，歡迎與筆者聯絡(jimlin@taiwancomputer.com)。有興趣的讀者，可以直接連到筆者的 Web Site，URL 是 <http://www.cads.com.tw>

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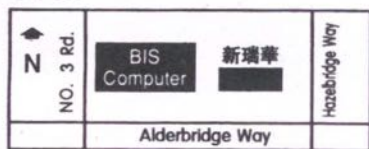
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市場新資訊(二):

使用英文視窗系統的人仕,有需要在視窗內用中文時,應如何選購中文軟件呢?有需要放棄現有的英文視窗改用中文視窗嗎?

選用中文視窗當然可幫助大家解決日常在中文文書方面的需要。對習慣閱讀中文的人仕來說,中文視窗系統亦是最好不過的。因此,中文視窗在香港、中國大陸及台灣等地區廣泛被應用和推廣。

而海外很多華人機構和公司亦有繼續選用中文視窗。

與此同時,在北美洲很多地區亦有很多人仕漸漸認識到外掛式中文軟件。這類中文軟件可在英文視窗內發揮書寫中文的效果。在今天軟件市場上,已有很多外掛式中文軟件供選購;其功能亦很佳且有其獨特好處。特別對一般正在選用英文視窗系統的人仕,要有中文電腦的功能,而又不想把現在的電腦系統改為中文視窗版,當中最佳的選擇便是安裝外掛式中文軟件。

舉例來說,在主流社會受教育或工作的人,日常接觸電腦都習慣看英文指示;若然因需要中文的效果而改用中文視窗,可能在整體操作上帶來很多不便。此外,在同一機構內有很多人分用一部電腦,是否每一位成員都喜歡在中文視窗內操作呢?把原有的英文視窗改到中文視窗後,螢幕顯現的都是中文指示,對其他不習慣閱讀中文的成員往往帶來不

便。

在這情況下,選用外掛式中文軟件是最適合的。所謂「外掛式」是名乎其實從外加的獨立軟件。這類軟件可配合其它視窗軟件一起用,且不改變英文視窗的任何運作形式。用者可自由地開啓或關掉這類外掛式中文軟件。

在市面流行的外掛式中文軟件有很多。例如華夏、雙橋、南極星和四通利方。這類軟件擔任的角色和其它在英文視窗內運作的英文軟件很相似,而每一套軟件本身有其特別的功能。華夏和雙橋便是當中兩個例子,它可在英文視窗系統內連同其它英文軟件〔如Word 97〕一起發揮寫書中文的卓越效果,在處理日常文書事情上可更快更方便。

一般外掛式中文軟件的操作亦很簡單。多種常用的中文輸入法:拼音、注音、粵音、英譯、倉頡、筆劃及手寫輸入法等。用者可選用GB、Big 5內碼或Unicode來顯示繁、簡體中文字。

選用外掛式中文軟件人仕只需要在軟件開啓後,多練習自己喜歡的鍵盤輸入法或外加手寫筆,便可揮灑自如地書寫。

因此,選擇外掛式中文軟件或中文視窗均視乎用者本身需要和環境因素。現今軟件市場均佈滿類似的軟件商品,要詢問有關的資料或觀看所需的軟件商品示範應該是很容易的。

Is it necessary to change English Windows to Chinese Windows in order to view and type in Chinese?

The answer to this question is "No". To install an add-on Chinese program into your existing English Windows can be an ideal solution. Simply, just leave the Chinese program on when you need to input and output Chinese. Turn off the Chinese program when you are done with your work. It is like any other English application inside Windows 3.1 or 95. Nowadays, you have many input choices including keyboard method and pen recognition input.

Under which circumstance will an add-on Chinese program be the perfect alternative?

It depends on whether or not the computer is going to be used by yourself or by several co-workers or family members. If it is going to be used by several people, an add-on Chinese program may be the best choice. In fact, English Windows will be common to most users, especially in an office setting. An add-on Chinese program will allow the user to toggle between Chinese and English environment. Most of these add-on Chinese programs will not change the English menus in Windows but allow you to type and view

the Chinese characters. Chinese Windows on the other hand will display all the menus in Chinese characters.

Chinese Windows is an alternative if one uses the computer on his own and prefers viewing everything in Chinese only. One then may find Chinese Windows helpful, since it will display all the menus in Chinese.

For those with children at home sharing the usage of the computer, the young users may not want to view Chinese characters all the time or they may have a hard time to operate a pure Chinese system. As a matter of fact, the computers at school will likely be using English Windows and the students are used to English Windows environment. In this case, it is better to go for an add-on Chinese program inside an English Windows at home, so that there will not be any conflict to anyone.

Nowadays, there is a list of software programs that come with many input choices and special features including sound and stroke teacher for character learning. Check it out and ask for a demo if at all possible.

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You asked us...



Hard-drive hardship

I just got new hard drive (Fujitsu mpb3021at 2.6 GB) but I can't get it to work. The CMOS setup recognizes the hard drive, but Win95 won't. The jumper settings are set for primary slave.

Do you have any suggestions?

Adam Maybank

Alan Zisman responds: What version of Win95 do you have? (Check by going to Control Panel, clicking on System, then General.) If you have either "Microsoft Windows 95 4.00.950" or "...950A," your problem is that those versions only support the FAT16 file system, which can only support a maximum of a 2.0 GB drive partition.

In that case, you may want to run the DOS program FDISK (you can do this from a DOS prompt in Win95), make sure it's set to look at your second drive—I think it looks at Drive 0 and Drive 1—and create new partitions.

Afterwards, you'll have D: and E: hard-drive partitions, and will need to run the DOS program FORMAT (FORMAT D: and then FORMAT E:). Win95 will then support your drive(s).

If you're using Win95B (4.00.950B), FDISK will let you switch to FAT32 and partition the whole drive as a single large partition. You'll still have to format it afterwards. Win 95 and 95A don't support FAT32.

(And do me a favour—next time, please turn off CAPSLOCK. It's the email equivalent of SHOUTING!)

Okay to kill DOS?

I switched to Win95 a while ago and, since I have an old 486, I'm running out of disk space. If I don't use any DOS programs, is it okay to delete the whole DOS directory? Will windows still work?

Sara Craven

Alan Zisman responds: Win95 is not dependent on the C:\DOS directory. It adds its own version of DOS to a \Windows\Command directory. So yes, you can safely delete C:\DOS and still run even DOS programs/DOS commands.

Win95 and Win95 programs are very demanding on hard-drive space. If you're running low on drive space, you may want to look at adding a second hard drive (cheaper than ever), or compressing your existing drive with Drivespace (included with Win95).

The version of DrvSpace included with the original Win95 can create compressed partitions as large as 512 MB. In other words, it is only useful on drive/partitions up to about

350 MB.

DrvSpace 3 is included with the Win95 Plus Pack, or with Win95B. It can create compressed partitions as large as 2 GB.

In either case, it is accessible from the Start Menu: Programs/Accessories/System Tools.

TMPted to delete files

I've noticed several megabytes of *.TMP files floating around my Win95 directory. Can I erase these?

Robby Dittmann

Alan Zisman responds: If they don't have today's date, feel free.

Win95 or applications create *.TMP files during many operations; if you shut down properly, they should be cleaned up automatically. If your system crashes or is turned off without being shut down, they may be left behind.

For the sake of tidiness, you may want to make a folder where they can go once created, so that any uncleaned TMP files are deleted automatically at bootup. You can do this by:

1) Creating a folder of your choice for such files. It can be named anything, but I'd suggest C:\TEMP or C:\WINDOWS\TEMP.

2) Add the following three lines to your boot AUTOEXEC.BAT file:

```
SET TEMP = C:\TEMP (or whatever)
```

```
SET TMP = C:\TEMP
```

```
IF EXIST C:\TEMP\*.TMP DEL C:\TEMP\*.TMP
```

Fresh batch for Win95?

Can you run a Windows 95 program from a .BAT file?

Leon Van de Veegaete

Alan Zisman responds: Yes, under Win95, batch files can start DOS programs, Windows programs (16-bit as well as 32-bit), and, using the START command, registered data file types.

The START command can be very handy. The command: "START Mydoc.doc" would load the data file MYDOC.DOC into Microsoft Word, for example. (You can use long filenames as well, by enclosing them in quotation marks: "START "My long filename.doc.")

As well, using the START command, you can make a batch file wait until you quit a program before processing the next line in the batch file (by using the START /W parameter).

Note that it's often useful to set the properties for the batch file so that it will run minimized, and will close upon exit; otherwise, you end up with a terminated DOS window cluttering up your screen when the batch file

is finished.

In strictest confidence

I'm not naturally paranoid, but I'm worried about confidential files I send over the Internet. Is there anything I can do to protect them against prying eyes?

Elise via an ISP

MacShrink David Rosen replies: You're not paranoid. The Net is one of the best things to happen to the personal-computer industry, but it's not without its problems. Security tops the list of things most of us would like to improve. There are few security standards in the online world, and those that do exist are ignored by most people. The majority of people who live in the online world are blissfully unaware that their email is relatively public.

At the other end of the spectrum, some folks are very security conscious indeed—even a psychiatrist might call them paranoid. For example, many lawyers don't like sending anything by email, and still prefer the ol' fax machine or courier. Likewise, some high-tech movie-production companies prohibit staff from connecting any computer to the Internet for fear that nasty things will happen.

The good news is, there's a lot you can do to reduce your online risk. One of the first things they teach aspiring doctors in medical school is "an ounce of prevention is worth a pound of cure." For those whippersnappers too young to remember anything but the metric system, I'll translate for you. One of the best ways to improve the security of your email messages is by ensuring they don't go astray. In short, always use an address book to send your emails. Really—always.

Mistyped email addresses are the number one cause of email misdirections. Despite all the complex behind-the-scenes work, the Internet is pretty good at routing your mail to the correct mailbox—as long as you send it to the right mailbox. Leave one character out in a traditional letter address and your letter will still get to its destination. Do the same thing on an email address and you—and your electronic message—may be in a world of trouble.

Another thing you might consider is encrypting your files before you send them through the Net. Encryption is just a fancy term for a process in which your information is scrambled up. Once scrambled, people who shouldn't read your message, can't. Even if your message gets intercepted or misdirected, it won't make any sense because it will appear all jumbled.

The best publicly available encryption packages provide 128-bit encryption. This means the mathematics involved with jumbling your information is sufficiently complex to prevent bad guys from "guessing" your message using fast computers. Aladdin Systems, based in Watsonville, Calif., sells a product called Private File that provides this level of encryption and even compresses your files so it takes less time to send them over the Net. Obviously, you and your intended recipient both need a licence, so Aladdin sells two-user licences for around \$80. The software is available in Mac, Windows 95, and Windows NT formats, so you can stay safe on a variety of platforms. Aladdin Systems can be reached on the Web at <http://www.aladdinsys.com> or by telephone at 408-761-6200.

Seeking Apple Guide

A buddy showed me an Apple publication a few months ago called Apple Guide. The booklet had all sorts of memory configurations and product information for the complete line. The problem was that it was hopelessly out of date (being a couple of years old). Is there anywhere you can suggest to get a new one?

Kevin via an ISP.

MacShrink David Rosen replies: Apple Guide was originally designed for internal use and for the use of resellers who wanted quick and accurate information to Apple's current product line. It discussed all of Apple's products, their positioning, and even had memory configuration charts. The problem, of course, was that as soon as it was printed, it was out of date. The booklets were also expensive to print. After all, Apple had to print them several times a year and the booklets had lots of text and graphics.

The solution was equally obvious: put the book in PDF (Adobe's portable document format) and leave it on the Web. Point your browser at swupdates.info.apple.com and see the newest version of the now-online guide. For example, Apple Memory Guide 2-98 provides some rather in-depth information about Apple's new G3 PowerBooks, and even catalogues all Apple-labeled Macs and printers. ♦

•Send Mac-related questions to David Rosen at MacGuy@tcon.com. Note: all questions become the property of MacShrink and David Rosen.

•Send Windows or other software and hardware questions to Alan Zisman at azisman@mail.bc.rogers.ca.

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BY PAUL ANGYAL

The high-tech industry is so wrapped up in self-adulatory and bombastic language—where even the tiniest bit of progress is a “breakthrough” or a “quantum leap forward”—that when a truly innovative idea does come along we may not even notice it, or grasp its significance right away.

Danmere Technologies, based in the United Kingdom, has come up with one such idea.

The company has developed a way to turn a common VCR into an incredibly inexpensive backup device (remember what we were taught in computer kindergarten? Never talk to strangers, and always back up our hard drives!).

And why not? The VCR has tape and will record anything in fairly high quality. The principle is ingeniously simple, the process is reliable, and working with it is virtually foolproof. It is a dirt cheap and faster alternative to Zips, SyQuests, and Colorados, if you consider that you can squeeze about 4 GB of content onto a standard, garden-variety VHS tape.

Ubiquity

And since the VCR is pretty much a standard household appliance (many families have more than one), setting yourself up with Backer (the unimaginative yet descriptive name for the product) only involves buying the relatively inexpensive unit itself and grabbing a video tape for a few bucks.

Backer comes as either a plug-in internal card (8-bit ISA) or an external little black box. It is equipped with its own Windows-

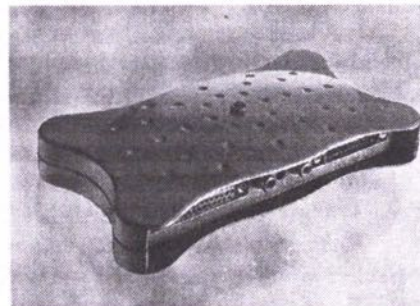
based software (both 16- and 32-bit). Although it costs more, if you are squeamish about having to deal with IRQ-settings, the external unit is a better choice. Backer will simply hook up to your PC's printer port (typically LPT1). The kit includes the AC-power adapter and the parallel cable, but for some mysterious reason you have to get the two RCA-type double-ended video cables to connect the unit to the VCR yourself.

Backer compresses data and converts it into video signals, DNA-like small dots the VCR then writes onto the tape. The smaller the dots, the more data goes on every inch of tape. There are two pre-selected settings under “video options” that give you either high- or low-speed data-transfer. With the first, you can back up about 9 MB of data per minute. The slow mode only gives you about half that (4 MB per minute), but is less error prone and still beats conventional tape drives by a mile.

A 1.6 GB hard drive can be backed up in about 400 minutes, or a little under 7 hours in slow mode. It's a good idea to do it on a weekend if you want to let it hum along on its own. And while Backer works in the background, allowing you to work in other Windows applications, it is always safer backing up in a solitary environment.

Setting up the software is fairly simple and straightforward. It is supplied on a 3.5-inch diskette, which includes testing utilities as well (Danmere calls it “health check”). You plug things together, follow the start-up sequence, and presto, you are ready for the first trial backup. You can create different backup templates. You can save the entire hard drive, selected directories, or just individual files. Selection is only a mouse-click away.

continued on page 54



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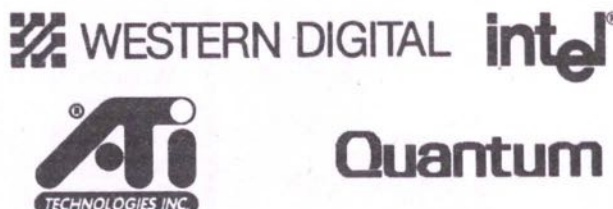
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The return of recordable CDs

BY ALAN ZISMAN

How do you store and transport files? For many of us, the 1987-vintage 1.44 MB floppy-disk standard is just too small. A wide range of alternatives have been proposed—from 100 MB drives to removable drives offering several gigabytes of capacity, but none have really gained mass acceptance. There are too many competing sizes and formats; while some of the drives themselves have been affordable, the disks—the removable media—have simply been too expensive.

Nevertheless an old alternative reborn has

been quietly gaining popularity. Recordable CDs (CD-R) have been around for years, but have never quite taken off. CD-R units used to be expensive and unreliable. It was all too easy to ruin a \$25 blank disc. And besides, aren't CDs about to become obsolete?

The CD's replacement, DVD, is taking longer than predicted to catch on, and the industry hasn't been able to unite around a single recordable DVD standard. At the same time, the prices of both recordable CD-drives and blank discs have been plummeting, while their convenience and reliability have been rising. And since virtually all PCs now come equipped with a CD-ROM player, home-

made CDs can be read on far more computers than other alternative removable media.

Generation next

One example of the new generation is Hewlett-Packard's 7100 CD-Rewritable drive. It comes in two models—an internal IDE model (under \$600) and an external parallel port model (under \$800). Either is compatible with most PCs, unlike earlier models, which required a SCSI adapter that is built into Macs, but unusual on PCs.

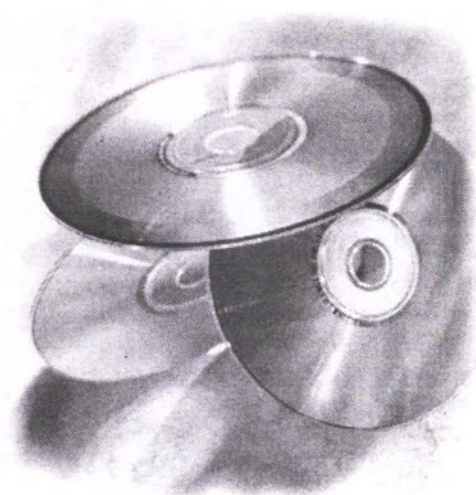
The 7100 is a 6x read unit recording at 2x (more expensive models from other companies may feature 4x recording), and can use either write-once CD-R discs, or rewritable CD-RW blanks. CD-R discs (holding 650 MB) sell for as little as \$2 each, and are more popular than the \$30 CD-RW discs. By comparison, a 100 MB Zip disk costs \$15 to \$20, while 1 GB disks for Iomega's Jaz drive cost around \$100 each).

Gathering one-hit wonders

HP includes software from Adaptec with the drive. This software allows users to create computer- or audio-format discs, or copy existing discs. Individual files can be copied directly from Windows 95's Explorer onto a CD-R or CD-RW disc, and a CD-R disc can be written to over multiple sessions. You can even create a sort of "greatest hits" audio CD by copying tracks from a variety of different CDs onto a single disc, which can then be played on any standard audio CD player.

Music-lovers may consider purchasing additional software, such as Adaptec's Easy CD-Creator Pro (US\$99—I haven't found a source for this in Canada, but it can be ordered over the Web from <http://www.adaptec.com>). This adds extra capabilities, such as the ability to create audio CDs from cassette-tape or LP sources, and even automatically filter out the pops and scratches from those old LPs.)

The CD-copying utility comes with a warning about copyright, but gives users the ability to copy computer software (PC and Mac) and audio CDs almost as easily as copying a



floppy disk. It takes about 35 minutes at 2x to copy the 650 MB on a full CD—double that if you run a trial run first (as I recommend). Sony PlayStation games typically won't copy—and, I suspect, as CD writers become more popular, we may see copy protection becoming popular with computer-software discs as well.

Generation gaps

Not all self-recorded discs are playable on all systems, however. CD-R discs are not readable on first-generation CD-ROM drives, nor on first-generation DVD drives. CD-RW (rewritable) discs have even more compatibility problems. Second-generation DVD drives and virtually all modern CD-ROM drives should not have such problems, however.

There are a wide range of CD-ROM formats. Discs created using the ISO9600-version 1 standard can be read under DOS and Windows 3.1, as well as later operating systems. Software allowing users to write to CD from Windows 95's Explorer is convenient, but the discs it creates are only readable under Windows 95 and NT 4.0. And depending on the options chosen, some discs may not be readable on a CD-ROM drive at all—only on another CD-R drive. It's important to read the fine print!

CD recorders and especially blank CD-R discs are becoming increasingly affordable and reliable. Add in the ability to read the discs on millions of CD-ROM and audio CD players, and they should prove a popular alternative for many home and small-business users. ♦

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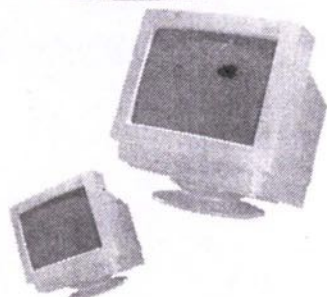
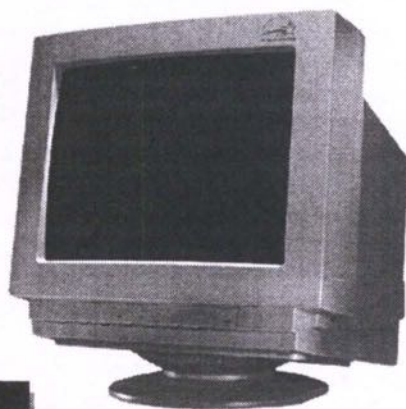


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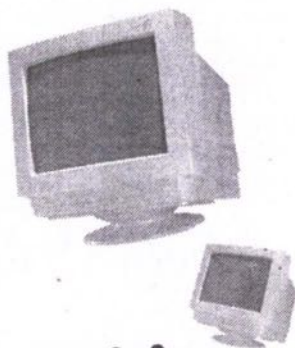
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Have videotape, will back up

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Set a good example

A note of warning: don't forget to change the setting of your VCR's "video input source" to "external" from "tuner" before you start, otherwise Backer won't work. Then, when finished, don't forget to switch it back.

The backup progress is constantly monitored. There is an error status and "time remaining" indicator, and a final report is supplied on the screen telling you the number of files that were designated to be transferred, how many actually have arrived error-

free and which had problems. You can then go back and redo the ones that didn't quite make it using file references from the index Backer created along the way.

Backer is marketed in Canada by QuantumPress Inc. of Toronto.

I asked QuantumPress president Scott Norwood whether we will see the unit in large retail stores anytime soon. After all, it should be a natural extension to the computer and video lines most of these stores carry. He was somewhat cautious, "Mass retailers think that Backer looks too simple and lightweight, so the public wouldn't perceive its true value," he said.

What a bummer. ♦

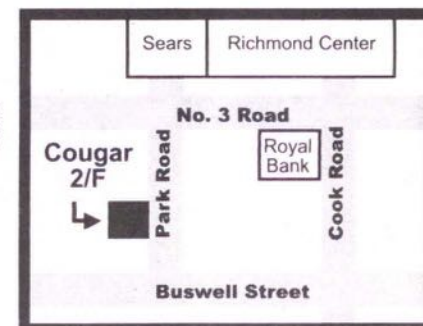


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 Trident 9750/ CL5465 4MB AGP85
 ATI Xpert@Work 4M/8M AGP.....200/265 ATI
 Xpert@Play 4M/8M AGP.....225/285 ATI All-
 In-Wonder 4M/8M AGP ...329/399
 ATI Xpert XL 4M AGP.....130

Modem

Acer Int Voice 33.6/56K.....80/120
 USR 56K (X2) Int Voice Modem.....140

Monitor

Proview 14"/15"/17".....185/245/475
 AcerView 15" 54E/56C.....270/290
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 ADI 15" E40/4P.....370/390
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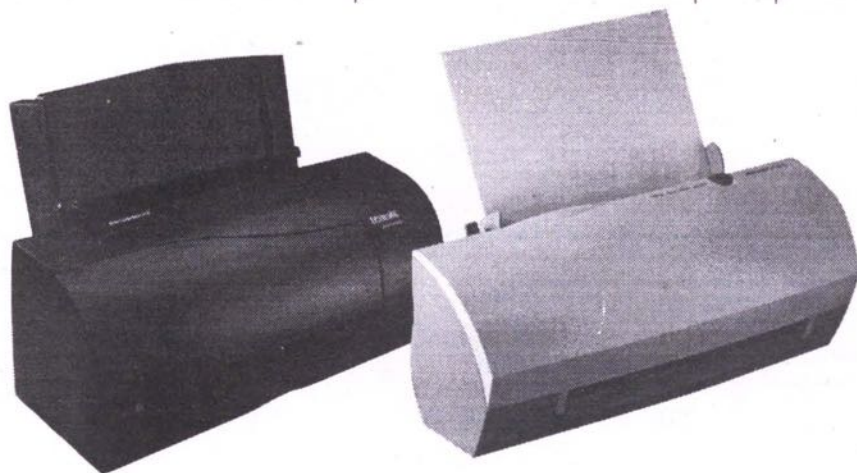
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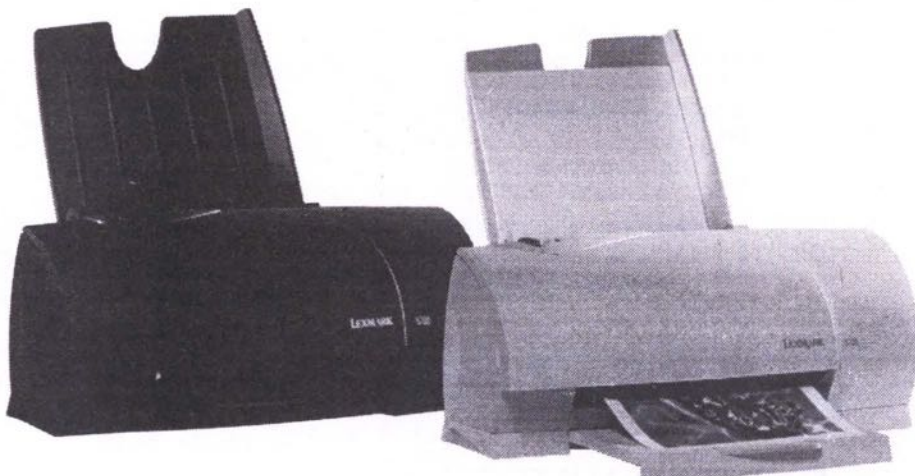


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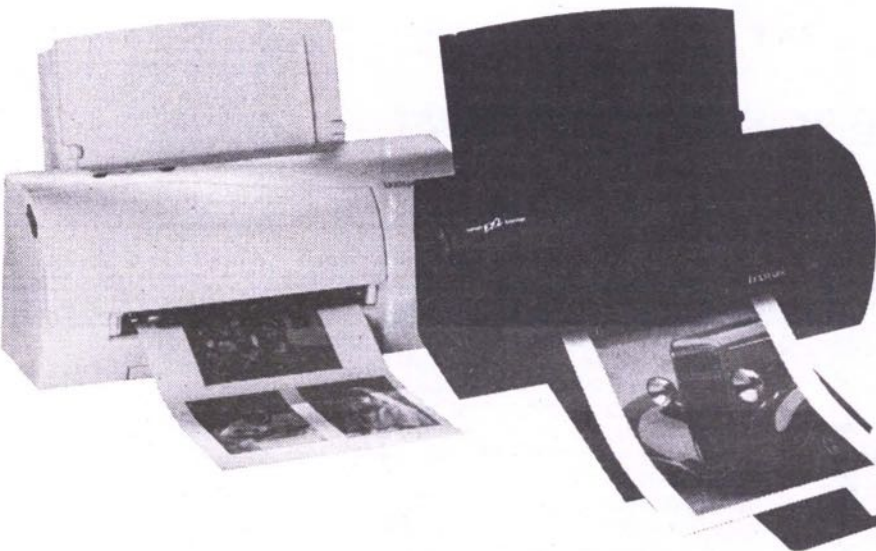


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* Aperture grille pitch

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